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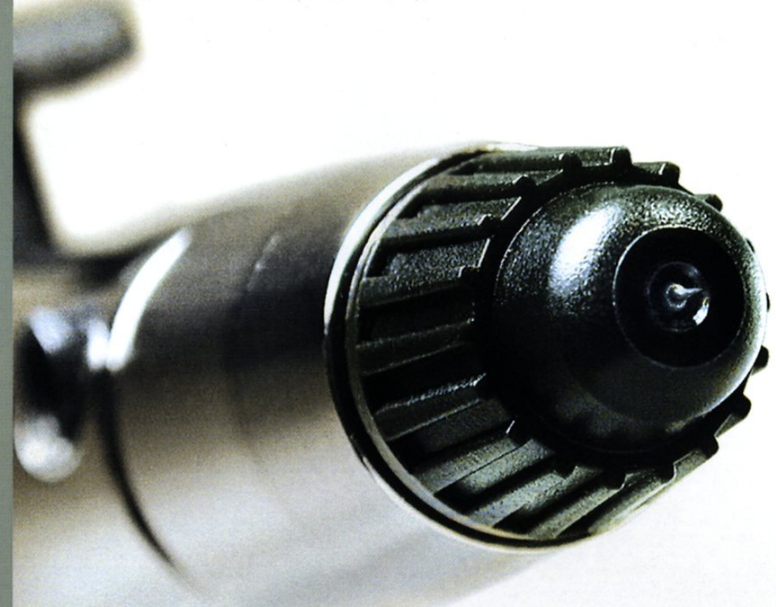

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ON THE COVER:
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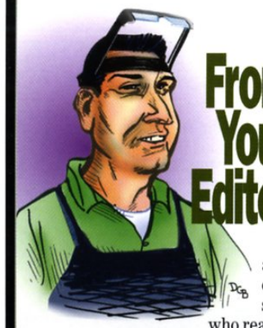

From Your Editor

The Editorial Editorial

I really envy those editorial pages with all that white space. You know the ones I mean. They have a great big picture of the editor and a very narrow column of type down the middle. Maybe there's a giant version of the dude's signature underneath. Looks something like John Hancock's—nice and big and flowery. I envy them because sometimes the area below these words looks like an awful lot of real estate to me. You know, the mag is done, it's ready to go to the printer and—"Hey Pat, did you ever write that editorial?" "Oh @#**, I forgot!" Well, I didn't really forget, I just tried to. I don't really ever suffer from writer's block. This is partly because I have always patently refused to think of myself as a writer (surely, some of you will hasten to agree). However, sometimes it is a little difficult to get started. Since this is only a quarterly magazine I have always held to the belief that what is in this column should be vitally important, if not to the world, then at least to ten or 20 people who read the magazine.

Over the course of 33 issues, I have written on a variety of topics. I used to like to bitch about competitions and clubs. I still do a lot of that privately, but since it's such a sensitive subject, I have been slow to repeat this on a regular basis. Since I'm on the subject, I should say that I still feel a hobby club, national or otherwise, should represent the interests of its members in the best way possible without doing it on the cheap. If you just want to sit around and drink beer and talk tanks, you're really not forming a club. I hate to put it this way, but clubs and societies are really about the combination of resources. I remember many years ago people formed so-called "food co-opts" to buy produce directly at a reduced cost. You could save a ton of money individually, but a huge amount of money was actually spent in the process. This is also true of the large "wholesale clubs" that are dotting the landscape today. Sure you can enter these facilities and get terrific deals on everything from tires to tamales, but first you have to join and pay a membership fee. And, in order for this organization to exist at all, a tremendous amount of money must be spent each day. So, to bring this analogy home, I think that forming a hobby organization is not about doing it on the cheap, it's about providing value to individuals who have money to spend. Let the fact that there are many of them give you the power to obtain that value. I think that some of the current organizations are close to the mark on this, while others are very wide. I'd like to see that change. Maybe it will.

I have also written reams on the subject of subjects. So much, in fact, that it eventually became a separate part of the magazine as The Idea Bank. This has been missing from the last several issues. It's not that there is no longer any need for it, it just became a question of space. I've still got tons of great stuff to pack in these pages and I'll always defer to a modeling article. That having been said, there is a definite need to update this feature due to the rather blinding release year just passed. I still have occasion to speak with the various manufacturers and I am still shocked to hear that they are pressed for subjects, especially the plastic companies.

Peripherally related to that subject, I have also been a little shocked lately to see the trend towards pre built and pre finished models. At first, I regarded these as little more than glorified toys, but some of what I have seen in the last few months is just as shocking. The quality is scary good and even Tamiya is in on it. We'll be looking at some of the Tamiya offerings in this new area in the next issue.

I think my favorite subject for editorials has been to explain our nutty schedule, or clarify why things come out when they do. A reader once told me that he loved to see me beat myself up in my editorials. Gee, that wasn't really the point, I just thought the readers deserve to know what's going on.

We do have a big year coming up. With the Tiger book complete and delivery now looking certain (check the date on this when you re read it), we'll have cleared the way for several exciting new projects. As some of you may have heard, we are switching the Modeler's Guide to the StuG with an already completed project, which I really shouldn't mention right now. OK, you talked me into to it! This will be the *Modeler's Guide to the Jagdpanzer*, a really terrific compilation of self-propelled German closed top anti-tank guns. This is a very neat title that looks at the Hetzers (3), the Panzer IV based vehicles (3), the Ferdinand and Elephant, the Jagdpanther (2) and the Jagdtiger (2). It includes detailed unit histories, deployment and organization information, and a good selection of reference photos. Of course, all this is in addition to full color coverage of each of the models and their various detailing sets.

Now, I should say that, as of this writing, this book is still technically TBA. We have yet to determine a firm release date or an exact retail price. However, the book is done and is currently in the layout stage. This is the reason why it will be switched with the StuG book. It just seems silly to sit on finished material. We'll announce the new release date for the StuG after the release of the Jagdpanzer project.

I will be keeping interested readers informed here, and also through the web site, which will soon include a range of more useful features, such as project preview photos, updates, color article supplements and a few other surprises.

Oh, hey look—it's the coming soon box, I gotta run! See ya next time!

—Pat Stansell

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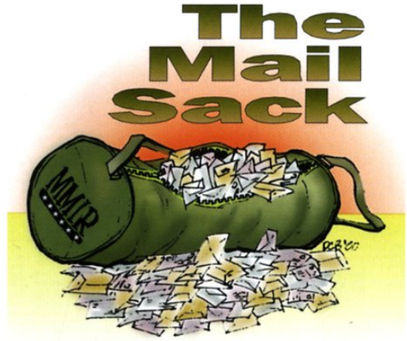

El-vee-tee three, see?

First, I love the magazine, more than I can write. The content coverage is simply super!

I thought I would bend your ear on the subject of the current crop of LVT kits and conversions. I did not see in your want list the LVT-3(C) that was used heavily by the Marines in Korea. It is basically a modification of the -3 used late in WWII, with folding covers over the cargo area and small machine gun turret far forward, to port.

Has anyone ever asked/inquired about this particular variant? I was just curious, including whether you had any rumors to pass along that someone was doing a kit or conversion. This particular LVT is in the Squadron Amtracs in Action and Armor in Korea books. Comments appreciated when you get a chance.

—Paul Houk

Well, no rumors, but we can certainly pass this along to the ruling Pooh-Ba of LVT conversions, Trakx (a.k.a. VLS). So far, they've done just about everything else on this cool vehicle. We'll keep you posted.

✉

Big: Good

I've been reading your magazine for two years now and I really find it to be the most exciting literature available at the moment, though it may seem a bit hard to understand for "froggies."

This was only to thank you for paying some attention to the quite unusual 1/15th scale by issuing Barry Beaudry's article about the Verlinden large scale M3 Stuart.

I'm more and more enthusiastic about this scale and I actually already did the same kit a few years ago. I'm at the moment working on an M4 from an old U.S. resin manufacturer and the Verlinden WWI Mk IV heavy tank that I intend to convert into the Mk V as used by the US 304th Heavy Tank Bn in 1918.

—easyeight@free.fr

You know, we like the big stuff, too. We will be covering the big Tamiya Pershing in some depth in a future issue, along with some of the new figures from S&T to go along with it. We had hoped that the release of these larger items would be just the start of many big scale plastic kits. For now, at least, they seem to be sticking with just the big figgies. We would love to see a big StuG; a 222 armored car, U.S. Jeep or even a BMW motorcycle. Just in case anyone is listening...

✉

Hansa, Paine and Amgu: how may I direct your call?

I always see ads in your magazine for Hansa Systems. Will MMiR do a build review on this product? Also, where is Shepard Paine and what is he doing now? He was certainly an inspiration in my early modeling days and likely the same for many other modelers. Just something to think about. Oh, an updated Armor Modeler's Guide to the 1/35th Scale Universe? As if you don't have enough on your plate. Thanks for the outstanding publication.

—Frank Blanton
blantonf-n@worldnet.att.net

That's a pretty tall order, there Frank. Let's break it down like this. We are going to begin reviewing the Hansa buildings in future issues. They are now offering full building kits and they are truly a treat to see. We have also been planning a rather extensive look at architectural materials. This idea is based around the creation of an elaborate photographic back drop and it would explore all manner of currently available materials.

According to recent sightings and news reports, Shep Paine is alive and well and living in Chicagoland, still enjoying the hobby he helped to start all those years ago. He is a regular fixture at the Chicago MMSI Show held each fall.

There is and has been another AMGU planned. This was just one of a number of projects that was placed on temporary hold back in late 2001. As of this writing, it is in the hands of an author who is making good progress. We will report on a precise release date when we can make one up—um, that is we mean—when the project nears completion.

✉

Forty, get your gun

I have seen conflicting information regarding the changing of the main armament on Shermans in the field. I have found a passage in a book titled *The Armies of George S. Patton* by George Forty. The following excerpt is on page 195, "...all Sherman's with 75mm guns had their main armament barrels replaced by 76mm barrels (either from knocked-out 76mm gun tanks, or new barrels through normal supply channels), thus achieving the long awaited up gunning of their medium tanks." I was wondering if you could clear this up for me.

—Brian Alfano

Well, this certainly isn't the space to really explore this question in depth. However, we think that you may be confusing regular, garden variety Shermans with M4A3E2 Jumbos. Whenever possible, these tanks were upgraded with the larger weapon. With its substantially increased armor, the addition of the larger gun made for quite a potent tank. Further, it would have been rather silly to switch guns in a standard Sherman turret. The T23 76mm turret was much larger and easier to work in. Any field switch would have probably been simply turret to turret.

✉

Knowledge by numbers

Here are a few questions that have been bugging me for a while. Some über modeler out there in MMiR-land is sure to know.

1. What is that short little cylindrical cavity of each side of the Tiger's front fenders? According to *Achtung Panzer #6* (page 26) these were "apertures for screwing in camouflage as lorry or bus." I guess they were intended to hold some sort of pole that erected a canvas (or whatever) truck-shaped thingee. I've never seen a single photo or other reference to such a device. Have you guys got any info on this?

2. How about those cooling water filler caps on the Tiger rear deck? What was the reason for the cross-shaped slot? Was there a matching tool that was used to screw/unscrew the filler cap? If not, why didn't the Germans simply stick a handle or a couple of knobs on these caps rather than some elaborate, machined cross shape?

3. *Allied-Axis Issue 8* with the article on Ferdinands at Kursk. On the opening page (and repeated on the back cover) is a close-up of the front of a Ferdinand with the whole crew out and about. What is that headgear some of them are wearing? It looks like a beret of some sort. Not those big floppy pre-war things the Germans used, but definitely not the typical cap that you see in a million other panzer crew photos.

—Jeff Meloy
jmeloy@mail.ikic.net

OK, let's do it by the numbers. Number one: yes, this is absolutely correct. According to original records cited in Jentz' volumes on the Tiger I and Tiger II, these fittings were created to help disguise the Tiger I as a truck. As far as we know, this was never photographed.

NUMBER TWO! Once again, Jeff is on the right track. The idea here was to keep some swarthy individual from yanking off those caps and messing with the fittings underneath. There was a special tool used to remove the caps and some crews got sick of losing it and created the field expedient shown in the accompanying illustration.

And the last point, number three: the beret issue. This is an easy one. You see German tankers in berets for the same reason you see guys in baseball caps at the mall. It was just cool at the time. The dirty 'ol civilian beret gradually crept its way into use by German tank crews primarily due to their exposure to it while either on leave, or on duty in France. Same deal with French fries...

✉

If you would like in on any of the dialog in MMiR, drop us a brief letter written on a fifty dollar bill or better yet, inscribe it on the bottom of an Accurate Armour LCT converted to a LCT (R) with 1,064 rocket launching racks mounted onto a false deck and send it to: ***Mail Sack, Ampersand Publishing Co., Inc. 235 NE 6th Ave., Delray Beach FL 33483*** *or* ***mmirpat@aol.com.*** *Letters are sometimes edited for brevity, obscenity, national security, or just to make you sound smarter.*

We sincerely regret that we rarely, if ever, are able to personally enter into correspondence with our readers.

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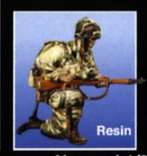

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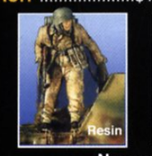

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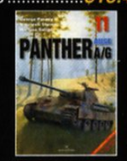

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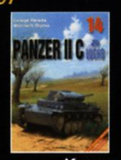

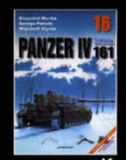

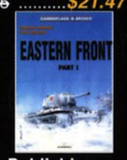

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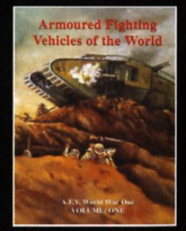

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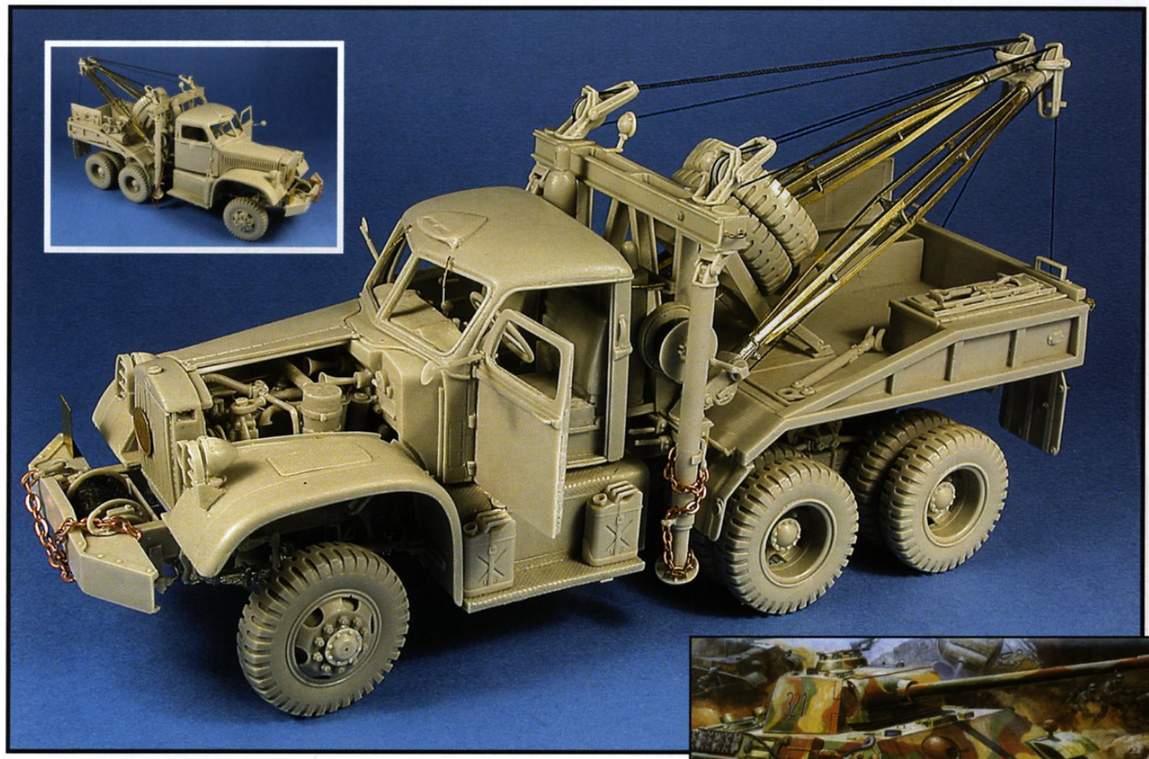
Short Takes

The Year in Preview



Aber

Just when you thought it was safe to buy photo-etch again, Aber has gone and given the "Tiger" treatment to the new Dragon Panthers. By this we mean the incredibly elaborate "super" sets done for the 1/35th and 1/16th scale Tigers. The new set is **35K02, PzKpf w. V Panther (Sd.Kfz. 181) Ausf. D or A (1).** This über set contains a full seven sets of photo-etch, along with a turned aluminum barrel, multi-part milled brass muzzle brake, turned brass distance markers and idler bases, copper wire, weathered tow cable and a small piece of bass wood for the towing block. Wubba, wubba! There's some pretty nutty stuff on those frets, too. A full set of Schürzen, rear stowage boxes, fan guards, chains and even the turret race ring. This is a limited edition and one you will not want to miss. Look for retail of $69.99.

Also up and new are separately sold, milled barrels. **AB 35L04, 7.5cm Panther A, D, Early G,** $16.99 and **AB 35L05, 7.5cm Marder IIIM, Pak 40/3,** $16.99. These both contain a turned aluminum barrel and a multi-part milled brass muzzle brake.

Academy

MRC/Academy has released a newly tooled version of their 1/25th scale Panther G and it is one monster of a kit. **13018, Panther G Late Version** ($49.00) **(2),** measures nearly 11 inches. This kit is so large it actually takes two joined tracks to cover the wheels and it takes 10 sprues to fit all the parts. Interestingly, the kit features movable torsion bars formed by rigid vinyl parts. Metal parts are also included. The kit comes with clear instructions and decal schemes for tanks used in Germany and Belgium. This one should be worth checking out.

Accurate Armour

We have a big 'ol bunch of stuff to tell you about Accurate Armour—too much, in fact, to tell you in this issue. There'll be more in issue 35. First up, we have to tell you that the long awaited Diamond-T 4-ton wrecker is now available. It is available as both a hard and a soft cab version. The official moniker is **K128, Diamond-T 969 Wrecker (above).** The stated export retail is $148.94. K128H is the hard cab and K128S is the soft cab.

Also cookin' is **A053G, Challenger-2 Update Set (Op-Telic) (3).** This is a comprehensive update set for the Trumpeter Challenger-2. The set includes many replacement detail items, brass skirting and mud flap set, new gun, commander's sight, smoke dischargers, gpmg cupola and mounting and many other correction and replacement parts. This set is for a typical Operation Telic deployed vehicle and is fitted with DL-2 lower nose

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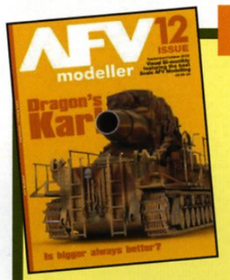

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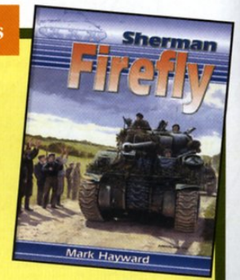

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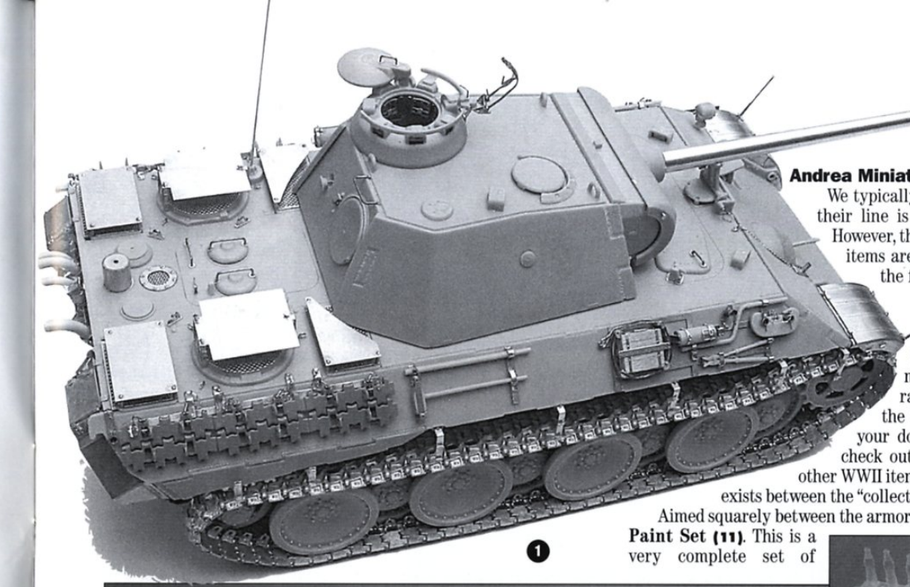
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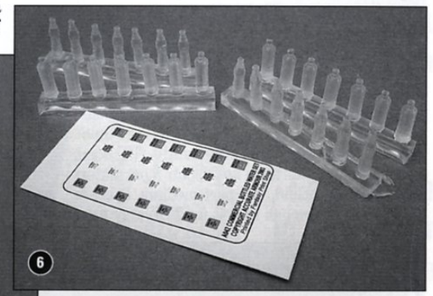
18 and Accessory is a boatload of goodies for your 10.5 and it includes various cases, rounds and charges for $17.98.

Andrea Miniatures

We typically don't have much to say about these guys, as their line is mostly composed of collector's miniatures. However, the line is so awesome and complete that certain items are bound to catch our attention. We have spied the following: **SG-A22, Wolf (Lobo)**, $8.95 **(7)**; **SG-A23, 3 Pigs (3 Cerditos)**, $9.95 **(8)**; **SG-A24, Dog (Perrito)**, $7.95 **(9)** and **SG-A25, 3 Bats (Murcielagos)**, $6.97 **(10)**. These are all beautiful little white metal castings and any one could spice up a diorama or vignette in just the right way. Although the stated scale is 1/32nd, who's gonna measure your dog? There are also other accessory items to check out in the line. With their U-Boat diorama and other WWII items, they are starting to really blur the line that exists between the "collector" items and the armor ones.

Aimed squarely between the armor modeler's eyes is **PS-02 Andrea Color WWII Paint Set (11)**. This is a very complete set of paints (10 bottles) that comes with a palette, brush, sandpaper, superglue, a fully illustrated color instruction booklet—and a German figure with a base! It's a terrific little set and a great value at $49.95.

For more information on the Andrea line in the U.S. see www.squadron.com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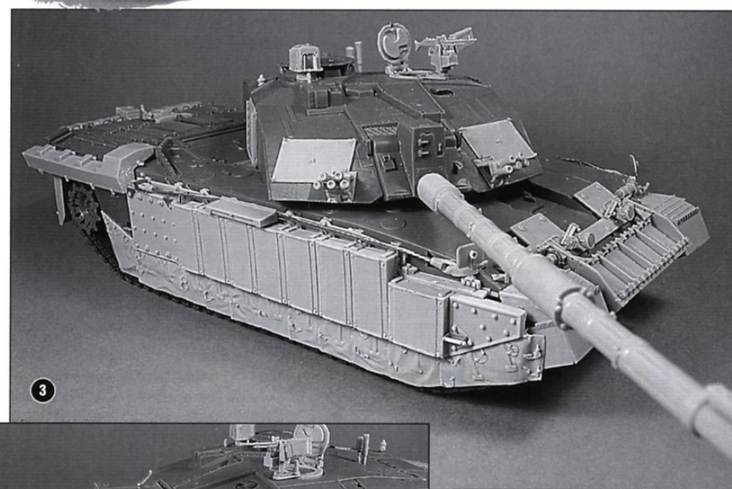
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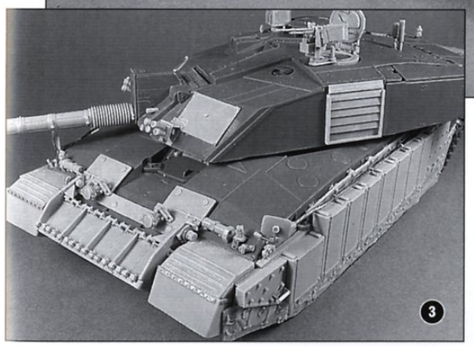
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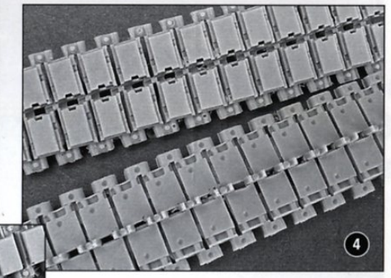
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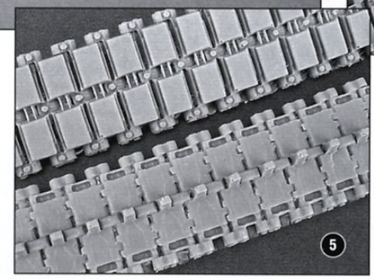
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reactive armor and revised passive side armor packs, revised sand guards and sand reduction sets. Also included are a full set of Thermal Identification Panels (TIP) and the Thermal Exhaust Covers (TEC). The export retail is $33.62. Something that would go great with this is **T68, Challenger II Track/Sprockets Replacement track set** for $13.00 **(4)**. In that same theme, is T61, **AS90 Track Replacement resin Track**, $10.50 **(5)**. Thirsty? Check out **A42C, Commercial Bottled Water Clear bottles & decals (6)**. This contains several clear castings with markings for $7.50.

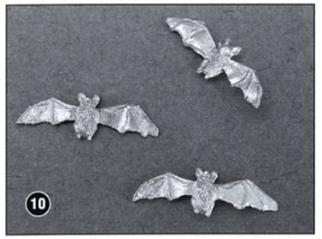
For up to date dope on the entire line see www.accurate-armour.com

AFV Club

Another fieldpiece has been announced from AFV Club. **35059, German 88mm AT Gun Pak 43** is a logical tie-in to the 10.5cm as it uses the same carriage. Kinda cool. The price on this one is still TBA. Accessorize, accessorize, accessorize! **35062, German 10.5cm Howitzer Ammunition leFH** contains several clear castings with markings for $7.50.

Armo

Although they make a whole range of stuff, Armo is quickly gaining a reputation for the most amazing milled metal items. Case in point is **35723, 15cm Nebelwerfer rockets with containers (9pcs)**, $14.00 **(12)**. This set contains three rockets and a container and lid for each, all beautifully milled from aluminum. The rockets fit right into the containers and the lids will seal them in! Next up is **35754, Turned metal Ammunition set for T-55**, $11.00 **(13)**. This is a very complete set milled from brass. **35768, 60cm Mörser Karl Turned metal gun barrel w/rifling**, $29.00, is a big 'ol hunk of milled aluminum for the Dragon kit. The business end of the barrel has rifling to a depth of about one-inch.



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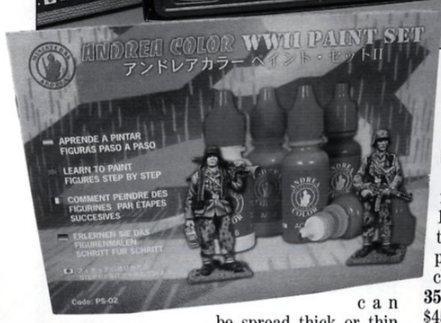
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COMMENT PEINDRE DES FIGURINES PAR ETAPES SUCCESSIVES
ERLERNEN SIE DAS FIGURENMALEN SCHRITT FÜR SCHRITT
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Aves Studio

Hey look, a couple of new items from our buds at Aves. First up is **Apoxie Paste**. This is an innovative product used to permanently fill, bond, seal, customize, fabricate and repair most materials. It is a semi-fluid, two-part medium. It is stirable, yet thick enough that it tends to stay put. It can be spread thick or thin with a craft stick or tool and is slightly translucent with gripping flexibility. The new paste self-hardens, with a working time of about three hours, a set time of six hours and a 24 hour full cure time. It can be seamlessly feathered before setup and can be tapped, drilled, sanded, filed and painted to finish.

And to go along with, we have **Apoxie Safety Solvent**. This is recommended for tooling, smoothing, texturing and quickly cleaning Apoxie products. It works with all of their two-part clays, including Apoxie Paste, Apoxie Sculpt, Apoxie Clay, FIXIT Paste and FIXIT. It is also a great replacement for acetone and other commonly used toxic solvents. It does not contain alcohol, M.E.K.P., paint thinners, or other harmful substances found in other, similar products. Apoxie Safety Solvent comes in a flip top plastic squeeze bottle in three convenient sizes.

For more information about this and other Aves' products, visit their website at www.avesstudio.com.

Baluard

This small Spanish firm has built its reputation solely on the manufacture of 1/35th-railroad items. Mission Models in the states has begun importing a small portion of the line and we've had a chance to take a look at the following. **35026, Diesel Engine for Locomotive**, $45.00 **(14)**; **35029, Railway Bridge**, $89.00 **(15)** and **35030, Electric Locomotive E45**, $199.99 **(16)**. The engine is obviously for decorating your local railroad scene, while the bridge kit is another great scenery piece. The locomotive kit is very complete and consists of mostly resin parts with a small amount of white metal and dry transfers for the markings. All very intriguing stuff.

For more information, see www.missionmodels.com

Bego

We're not sure if this is even the right name for these guys. The proper name may be "Tasco." Either way, they have some very hot stuff cooking on the styrene grill. Numerically speaking, the first up is **35001, Panzer II Luchs Ausf. L Late Model**. We have yet to see this kit, but the buzz on the street is high. The level of tooling and detail is as high as or greater than Tamiya, it is said. We'll give it a complete review when we have it in our hot little hands.

Also new is **35002 German Jerry can Set B**. This contains several highly rendered versions of the ubiquitous liquid container in styrene and photo-etch.

The final new item is **35003, VW Kübelwagen Type 82**. This may or may not be the kit that was once marketed by Hasegawa. However, even if it is, this was a sound kit and would be welcome back on the market.

We'll have more information on pricing and U.S. availability as it becomes available.

Blast

This French company has responded quickly with **35023K, M2/3 Bradley running gear with new tracks GW2**, $45.00. This gives desperately needed help for the elderly Tamiya kit. **35025K, AA7V RAMS running gear with new tracks GW2** is the same treatment for the Tamiya swimmer for $46.00. A couple of nifty little accessory items follow. **35024K M4 Sherman Stowage** is a few beautifully sculpted bits for $16.00 and **35026K, M24 Chaffee stowage set** is the same for $19.00. **35027K is M1025 Humvee wheels aggressive pattern**, for the new Tamiya kit, priced at $15.00.

U.S. prices were supplied by Mission Models and for more information on the entire Blast catalog see their web site at www.blastmodels.com

135th Construction Battalion

This new line from VLS is exclusively devoted to construction paraphernalia. The newest in building components is **CO 0011, Granite Foundation Set Small (2 Pieces)**, $8.95; **CO 0012, Granite Foundation Set Large (2 Pieces)** $9.95 and **CO 0045, Peaked Granite Window Facings (3 Pieces)**, $10.95. And don't forget to check out the new 'dozer kit reviewed in this issue. For more information see their website at www.modelmecca.com

Custom Dioramics

Yet another cog in the massive VLS machine, Custom Dio has these new goodies up for grabs. **CD 6072, Round Vignette Base**, $9.95; **CD 6073, Cobblestone Street Base with Trolley Tracks**, $15.95; **CD 6074, U.S. Ammo Crates (20 Pieces)**, $12.95 and **CD 1140, Street Entrance Vignette**, $15.95.

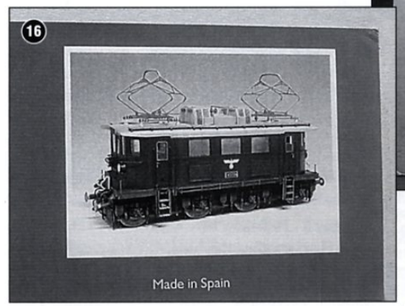
STOP THE PRESSES—Dragon has just announced the release of 6187, SdKfz. 251 Ausf. C (17) and 6182, Firefly Vc (the M4A2 version). More information as it becomes available.

As always, for more information see www.dragon-models.com

Dragon

As expected, DML has released another version of the mighty Karl. This time it's **6181, The Super Heavy Self-Propelled Mortar 54cm Mörser "Loki" Gerat 041**. This is the smaller caliber version with the longer barrel. DML has rendered the suspension in travel mode and the model now includes a fairly comprehensive set of photo-etch. The price on this puppy is $69.99.

Also new and available in the 6000 series is **6190, Frozen Battleground (Moscow 1941); 6191, "Achtung-Jabo" Panzer Crew (France 1944); 6201, German Artillery Crew and 6203, T-34/85 UTZ Mod. 1944**. This last item is an earlier, WWII version of their T-34 and includes rounded fenders and different wheels.



Eduard

The flow of Czech metal goes on and on... In good 'ol regular brass, we have **35550, Schurzen Pz. IV Ausf. G (Dragon)**, $29.95; **35552, Schurzen Pz. IV Ausf. G turret (Dragon)**, $22.95; **35557, Panther G (Dragon)**, $24.95 **(18)**; **35565, Challenger II (Trumpeter)**, $24.99; **35566, British 155mm AS-90 SPH (Trumpeter)**, $24.99 **(19)**; **35567, BMP-3 Interior (SKIF)**, $24.99; **35569, BMP-3 Exterior (SKIF)**, $22.99; **35570, MLRS NATO Exterior (Dragon)**, $24.99 **(20)**; **35571, IS-3M (Trumpeter)**, $24.99 **(21)**; **35573, Zundapp KS750 (Tamiya)**, $22.95; **35574, Merkava I (Tamiya)**, $29.95 **(22)**; **35575, British 155mm AS-90 SPH mesh (Trumpeter)**, $19.99 and **35582, Schurzen Panther G (Dragon) (23)**, $24.95.

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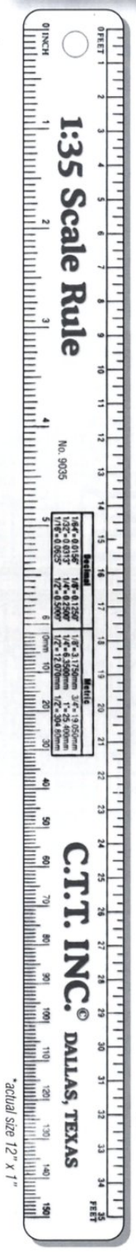

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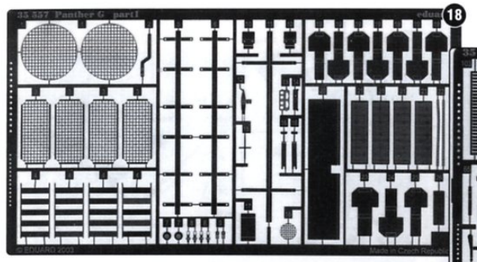

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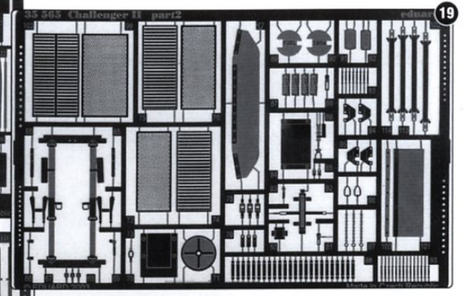

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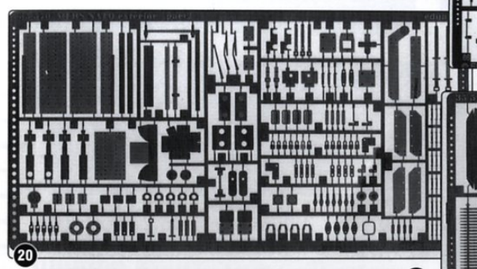

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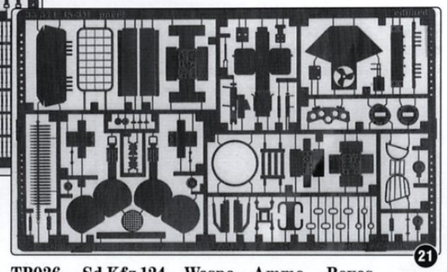

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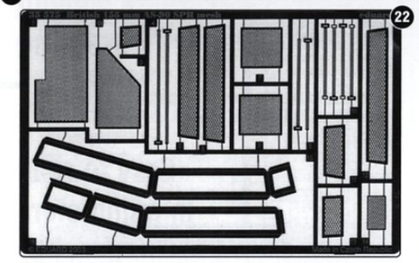

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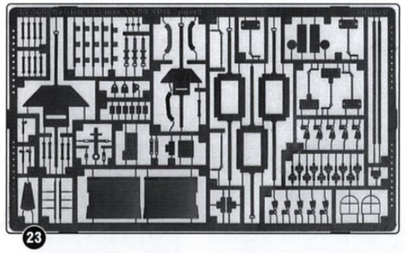

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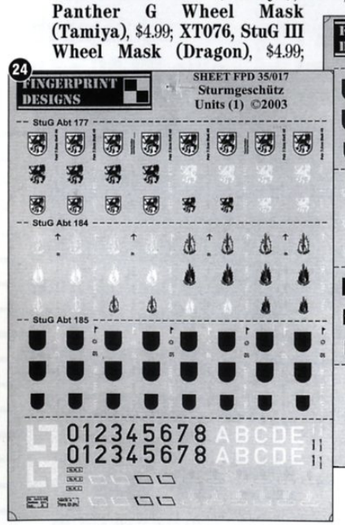
In the Express Mask series is **XT071, Pz. IV H/J Wheel mask (Tamiya)**, $4.99; **XT072, Panther G Wheel Mask (Tamiya)**, $4.99; **XT076, StuG III Wheel Mask (Dragon)**, $4.99; **TP036, Sd.Kfz.124 Wespe Ammo. Boxes (Tamiya)**, $19.95 and **TP053, German Car License Plates**, $19.95.

Hey look! In teeny 1/72nd scale is **22047, Tiger I ausf. E (Hasegawa)** at $22.95.



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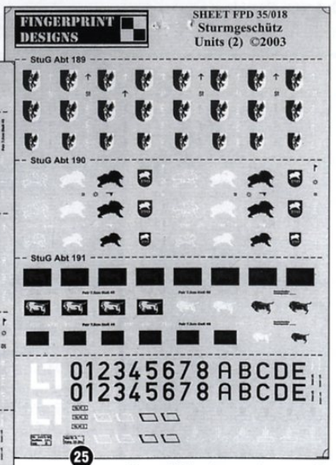

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Easy 1 Productions

Here's a cool idea. Take a bunch of scans of Tech Manuals and other useful images and stick 'em on a CD. This new venture is called Easy 1 Productions and they now offer the following items. **TM 9-731A, Early M4 and M4A1 Shermans**, contains 396 pages and 490 scans with 18 original pictures for $25.00. **TM 9-325, US 105mm Howitzer**, is a 235 page manual with 270 scans with 45 original photos of the 105 at Fort Sill and the Victory Museum in Auburn, IN for $20.00. **TM5-223C, German Mine Warfare Equipment**, is a 237 page manual with 24 pictures of actual mines and equipment priced at $20.00. **TM 9-759, Medium Tank M4A3**, makes up a 286 page manual with 335 scans and a folder of period WWII photos, priced at $20.00. **TM 9-252, 40mm Bofors**, provides a 301 page manual with 424 scans and 35 photos of a restored Bofors for a mere $20.00.

Future releases include the Ward La France Heavy Wrecker, Autocar U-7144T and the WC-62 and WC-63 Dodges.

For more information contact Mike Powell at Easy 1 Productions, 837 S. Stephenson, Iron Mountain, MI 49801. Mike's e-mail is mpowell@charter-mi.net. Tell him we sent you.

Finger Print Designs

Finger Print stuff is somewhat of a well-kept secret around here. They are the ones who make that dazzling little set of gauge decals, along with some other highly useful interior stenciling sets for German vehicles. One of those has been reissued. It is 35/001/B, German Stenciling Black. This will keep you in stenciling for a good three to five models.

Brand new from Finger Print Designs is **35/017, Sturmgeschütz Units (1) (24)**. This includes a range of markings for StuG Abteilungs 177, 184 and 185. **35/018, Sturmgeschütz Units (2) (25)** includes markings for StuG Abteilung 189, 190 and 191. Sturmgeschütz Units 1 & 2 is also available as a single sheet in 1/76th scale. Look for stock number 76/019.

What we like most about these sets, besides their obvious high quality, is that they both contain a wide range of auxiliary markings, such as tactical, loading, vehicle numbers and letters, distance markings and ammunition.

For more information on the entire line, see www.fingerprintdesigns.supanet.com

Fine Molds

This Japanese producer of styrene kits also loves the accessory thing. Looky here—**MG44** is a **Replacement tank barrel for Elefant/Ferdinand** for $16.00; MG45D, is a Replacement tank barrel for **German tank Panther A**, $16.00 and **MG46D** is **German fender poles for Panther A**, $12.00. This last item is very delicately milled in solid brass and would look great on your new DML Panther D.

5 Star

5 Star, another thread of the far-reaching VLS corporate web, will specialize in hard to find tools for your needy workbench. Now available is **FT 0002, Track-EZ Individual Track Link Assembly Jig** for $39.95. This is a larger version of the "Panzer Meister" track tool announced in these pages some time ago. This is a handy little milled aluminum item that allows the precise alignment of non-workable link-to-link tracks. It is also available in a shorter version as FT002 for $29.95.

FT 0001 will be a self-contained punch and die set containing five punches and their corresponding dies for $69.95.

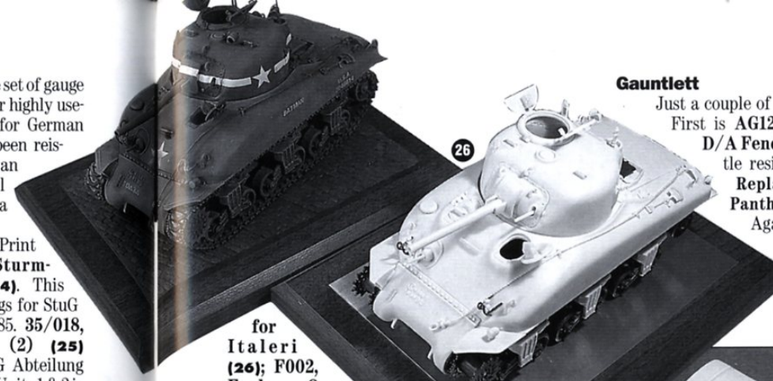
5-Star Models

5-Star is sort of a specialized subsidiary of Armo (we think). The idea behind the line is that all the items are complex subjects rendered in extreme detail. The first item we have seen is **35002, "Krasnaya Zvezda" Soviet WWII Armored Trolley**, $155.00. Odd subject aside, this is a vast model with a great deal of detail representing all the various mechanisms of the machine. **35004, SA-6 Gainful/2K12M Kub-M Soviet AA Missile System**, $105.00, is another full kit. This is the vehicle that was once available from Cromwell Models as a conversion for the DML Shilka. The 5-Star kit is an all-new full kit and includes a multitude of parts to build this unusual vehicle.

For tons of photos and other information on the line see www.jadar.com.pl/

Formations

The new items from Formations are some of the nicest that we have ever seen in resin. The line, so far, concentrates solely on Sherman and Sherman related parts and conversions. Here is what the list looks: **F001, M4A1 75 Dry Stowage Conversion for Italeri (26); F002, Early One Piece Sherman Transmission; F003, Early Low Bustle Sherman Turret; F004, M34 75mm Gun and Mantlet; F005, Dry Stowage Sherman General Detail Set; F006, Horizontal Return Roller Bracket Suspension Conversion for Italeri & DML;**



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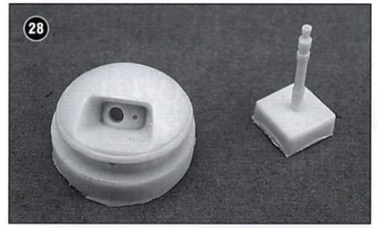

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F007, Air Cleaners for Radial Engined Shermans and **F008, M4A2 Mid Production w/Welded Drivers Hoods conversion for Academy M10**. Up and coming soon is Sponson fillers for Tamiya Shermans; M4 Detail Set for Tamiya; M4A1 w/Applique Armor and US WWII Vehicle Antennas.

We have had a chance to thoroughly peruse the M4A1 and M4A2 conversion kits and they are quite a sight to see. All of the parts are superbly rendered and virtually bubble free throughout. Just about everything one would need to execute the conversion is included like MV lenses, proper suspension components and tools. Oh, and those tools. Man-o-man; wait until you see these things! Delicately molded on a resin sheet, they even include the leather hold-down straps. These are molded in a variety of positions to look super realistic. We just can't say enough good things about these products and we anxiously await all their new items.

For more information contact them at FORMATIONS, PO Box 424 Bolivar, TN 38008-0424, (731) 658-1521. E-mail info@formationsmodels.com or web site at www.formationsmodels.com

30

31

Gauntlett

Just a couple of new items this time around. First is **AG121, Replacement Panther D/A Fenders**, $6.95 **(27)**. Two crisp little resin sections. Next is **AG 122, Replacement Bow MG for Panther A and Early G, $5.95 (28)**. Again, two well molded little parts. M&Models is the exclusive here and for more information see their web site at www.home.earthlink.net/~mmodels

Hussar

Hussar is a new line and one of the first items we have seen is **16001, Tiger 1 E Early 1/16 Decals**, $11.99 **(29)**. This is a surprisingly comprehensive set for the big Tamiya kit. Their newest includes **35001, KV Wheels Set #1**, $9.99 **(30)**; **35002, KV Wheels Set #2**, $9.99; **35003, KV Wheels Set #3**, $9.99 and **35004, KV Wheels Set #4**, $9.99. These are highly detailed resin castings that include just as much detail on their inner faces as on their outer. This should be welcome news for those KV freaks who are searching for the perfect roadwheel. Continuing, we have **35007, 85mm Russian Ammo for T34/85, SU-85, KV-85, IS-2**, $12.99 **(31)** and **35010, 152mm Russian Ammo for SU-152 (KV-14), ISU-152**, $11.99 **(32)**. These are both expertly milled from brass and aluminum, respectively.

In the coming soon category is Sd.kfz. 252 with ammunition trailer Sd.AH 32. This will be a resin conversion with Aber photo-etch for Dragon 250 kit.

For more information see www.airconnection.ca

Italeri

A couple of re boxes and re releases from our Italian chums. **6223, Sturmgeschütz IV**, $29.00; **6278, Tiger-Ferdinand Porsche Version VK-4501**, $29.00; **6383, Demag with Pak 38**, $29.00 **(33)**; **6426, VW Type 87 with Afrika Korps Soldiers**, $18.00 **(34)** and **6431, M24 Chaffee (Early)**, $23.00 **(35)**.

JP Hobby

Another member of the "Czech Model Mafia," JP has a small, but intense line of resin kits and conversions. Here are some of the latest. **35009** is **Mörser Karl early chassis conversion set for DML kit**, $80.00. This is several large resin parts to convert the

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SS Uniform patches and cuff titles
FG35042A $12.95 Gray with white piping
Builds 20+ figures. Sheet provides 7 each of Schütze or Oberschütze, 3 each Sturmmann, 3 each Rottenführer, 4 each Unterscharführer, 1 each Oberscharführer, 1 each Hauptscharführer, 1 each Sturmbannführer, 1 each Obersturmführer, 1 each Standartenführer, 3 each Scharführer, 2 each Oberscharführer, 1 each Hauptscharführer, 1 each Sturmbannführer and Oberführer. Also includes lots of cap Eagles and Death Head plus Cuff Titles for Adolf Hitler (5), Wiking (3), Deutchland (3), Der Fuehrer (3), Germania (3), Totenkopf (3), and Das Reich (3) divisions.
Detailed illustrated placement information included.

SS shoulder boards
FG35043A $12.95 For infantry units
FG35043B $12.95 For panzer units
FG35043C $12.95 For artillery/stug units
FG35043D $12.95 For reconnaissance units
Shoulder Boards have different color Waffenfarbe (piping) to distinguish the various units - White for Infantry units, Pink for Panzer units, Red for Artillery and Stug units, and Yellow/Brown for Reconnaissance units. To keep prices within reason, each unit is offered separately.
Detailed illustrated placement information included.

German helmet insignias
FG35044 $10.95
Sheet contains 120 insignias. Detailed illustrated placement information included.

Heer uniform patches for armor units
FG35045A $9.95 For panzer crews
FG35045B $9.95 For armor recon troops
Enough to build 7 figures plus a lot of extras. Comes with complete illustrated instructions and Wet Media paper for easy positioning.

Heer early war uniform patches
FG35047A $11.95 For infantry troops
FG35047B $11.95 For panzer grenadiers
FG35047C $11.95 For artillery troops
FG35047D $11.95 For reconnaissance units
FG35047E $11.95 For medical troops
Enough to build 7 figures plus a lot of extras. Comes with complete illustrated instructions and Wet Media paper for easy positioning.

Heer late war uniform patches
FG35048A $11.95 For infantry troops
FG35048B $11.95 For panzer grenadiers
FG35048C $11.95 For artillery troops
FG35048D $11.95 For reconnaissance units
FG35048E $11.95 For medical troops
Enough to build 7 figures plus a lot of extras. Comes with complete illustrated instructions and Wet Media paper for easy positioning.

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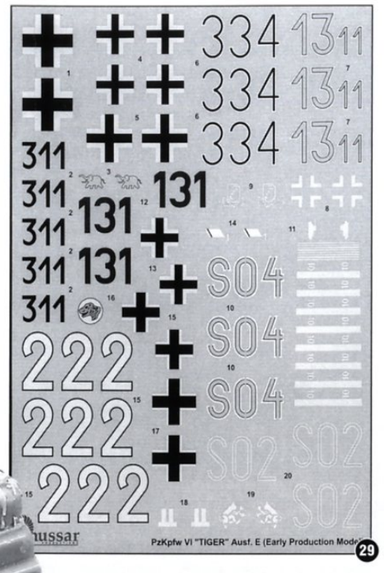
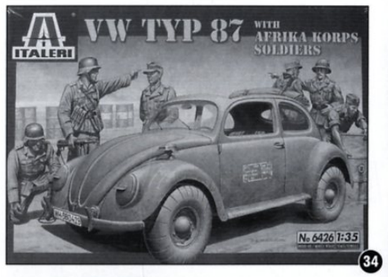
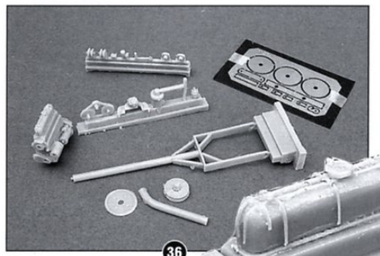
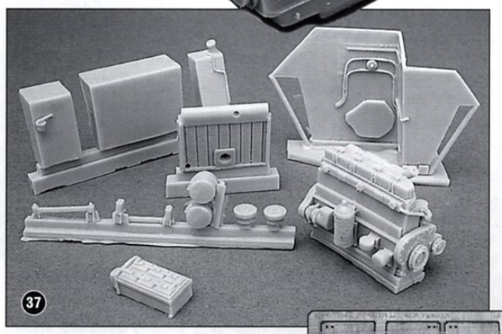


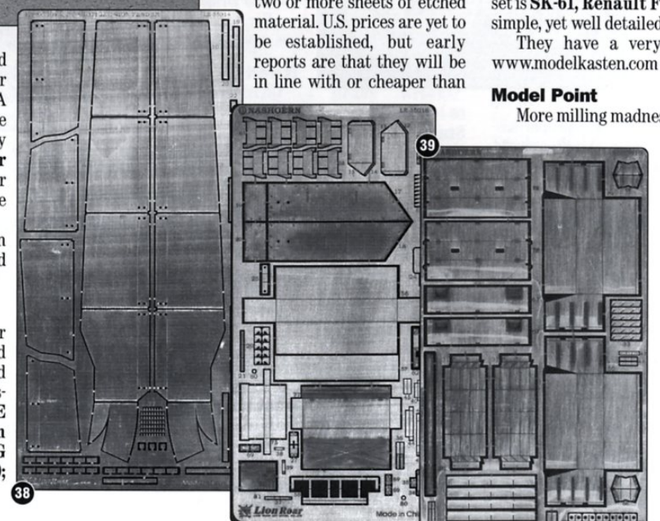




monster into the earlier version of the carriage. A very simple, yet effective set. **35001** is **Crane for Sd.Kfz.2, conversion set for Dragon kit**, **LE 35005, Panther A Detail Set with Masking Stencil (Dragon); LE 35006, StuG III F Detail Set (Dragon); LE 35007, Panther G Early/Late Production Detail Set (Tamiya); LE 35008 Panzer I Ausf A. (Tristar); LE 35009, StuG. III Ausf G early production (Tamiya); LE 35011, Russian T-55A (Tamiya); LE 35012, Hornisse SPG Detail Set (Dragon); LE 35013, King Tiger Henschel/Porsche production (Tamiya); LE 35014, King Tiger & Jagdtiger side fenders (DML/Tamiya) (38); LE 35016, Jagdtiger (DML); LE 35018, Nashorn (DML) (39)** and **LE 35019, Type 89 Anti-Tank Gun (Trumpeter)**.



The quality of all the sheets is fairly high and all contain at least two or more sheets of etched material. U.S. prices are yet to be established, but early reports are that they will be in line with or cheaper than those of their competitors. For up-to-the-minute information on the line, see www.lionroar.net/



$35.00 **(36)**. This is a small resin and photo-etched set that creates a crane for the front of your Dragon Kettenkrad. A Kettenkrad engine is also stuck in there to hang from the crane. **35A09** is a handy **Praga AE engine & compartment for Dragon/DML Jagdpanzer 38(t)** for $30.00 **(37)**. Just the thing to plop in the back of the DML kits.

JP Hobby products are available in the U.S. from both Mission Models and Chesapeake Model Designs.

Lion Roar

Lion Roar is a Chinese manufacturer of photo-etch for cars, airplanes and armor. They have hit the market hard with a veritable onslaught of new releases. Here's the armor rundown so far. **LE 35001, Tiger I Early Production Detail Set (Tamiya); LE 35003, StuG III A/B/C/D/E Detail Set (Dragon);**

ModelKasten

There are two new sets from MK. The first is **SK-60, PzII/Wespe**, $29.99. This is a revision of their earlier Wespe set and it now features locating pins on both sides of each link, as opposed to the previous "tip in," single pin method. The second new set is **SK-61, Renault FT**, $29.99. This is a blissfully simple, yet well detailed set for all the RPM kits.

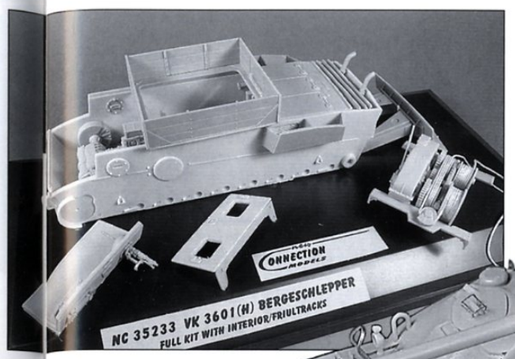
They have a very informative website at www.modelkasten.com

Model Point

More milling madness (are you sensing a theme this time around?). **RC-305-1, BMP-3 turret**, is a resin and milled brass detail set that includes a complete turret and other parts to rehab the sad little SKIF kit. U.S. retail is approximately $65.00.

Monroe Perdu Design Studios

Remember these guys. They have a marvelous little line of building and architectural stuff in 1/35th-1/32nd scale. One of the latest is **MPD-022 Booksellers Stalls**, $45.00. This is a typical



arrangement on many European side streets and bridges. The kit consists of resin sidewalk, curbs and wall, laser cut card cabinets and hardware, plastic angle iron, a selection of printed images and full color photographs of actual stalls, giving clear reference for super detailing and painting choices. The parts included allow for a choice of a sidewalk and curb, or broader base with two curbs and a median for trees and benches. Lots and lots of possibilities here. For more information check out www.monroeperdu.com

New Connection

New Connection has released another version of their full VK3601 kit. This time it is **NC 35233 VK 3601 Bergeschlepper (40)**. The real story here is that the original five prototypes were all converted to this configuration using the big FAMO winch. What happened to them from there is still a bit of a mystery.

The model is hollow cast and features a complete interior with tranny, torsion bars and, of course, the big winch. It's a pretty spectacular and complete kit that even includes Friulmodellismo tracks. The stated retail on all this fun is 119 Euro, which isn't too bad when you factor in the cost of the tracks.

There is currently no U.S. source for the line, but Historex is your source in the UK (www.historex agents.com) and New Connection loves to do international mail order. Contact them via www.new-connection.de or by fax at 49-09852/2804.

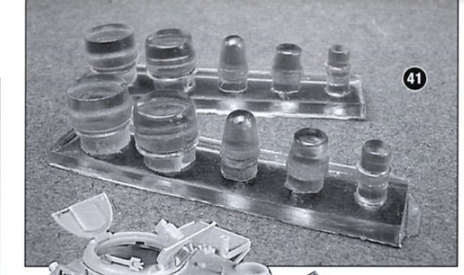
Panzer Shop

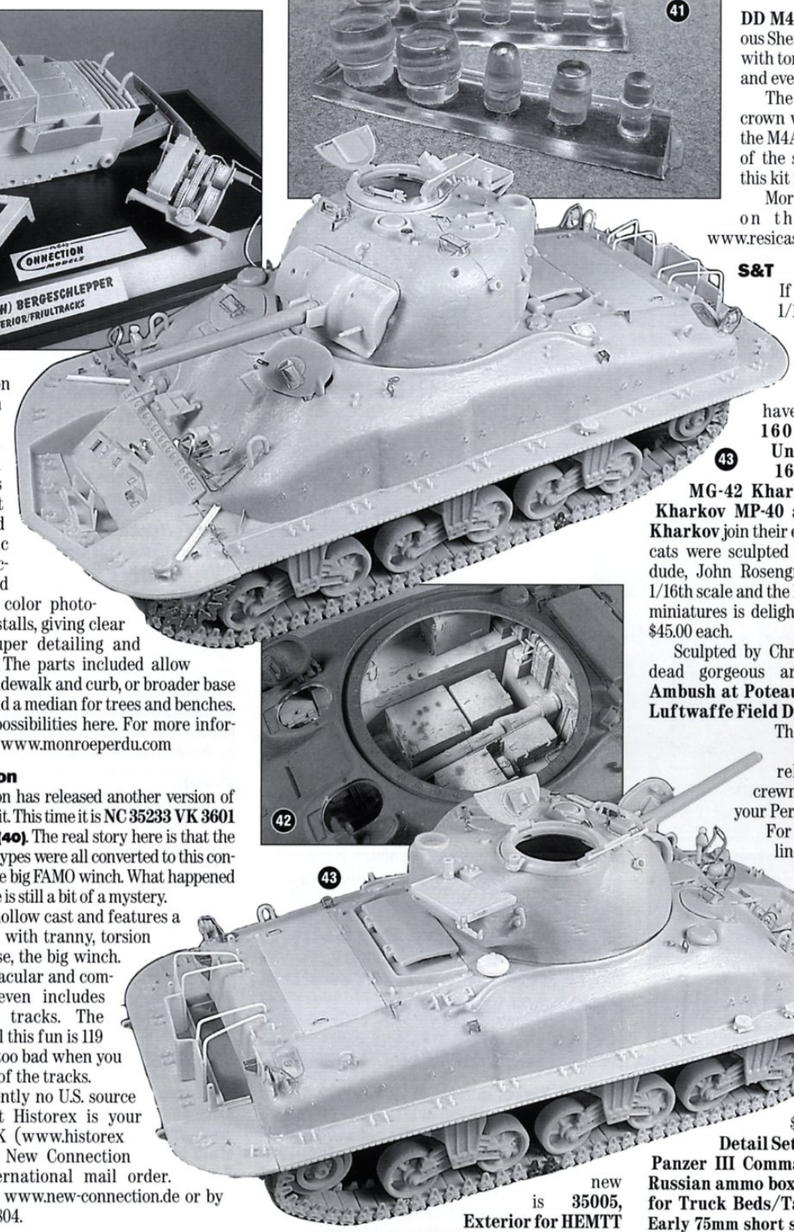
Nothing real big this time from PS, but useful all the same. **35A321, Warning Beacon**, $25.00 **(41)** is a very timely set composed of two sprues of orange colored clear warning beacons seen on the tops of modern AFVs and soft skins. Several different sizes are provided and the uses are practically endless.

Panzer Shop products are available in the U.S. from both Mission Models and Chesapeake Model Designs.

Pro Art Models

We now have all the skinny on the new HEMTT crane from Pro Art. It is **35006, Material Handling Crane for M977 HEMTT**, $33.00. Also new is **35005, Exterior for HEMTT M977**, $33.00.





For more dope contact them at Pro Art Models, Gooreindse Leunen 35, 2440 Geel, Belgium. Tel. 0032 (0) 14589680, Fax 0032 (0) 14589680. E mail: proart-mod-els@pi.be

Resicast

More tasty Sherman treats on board from Resicast. **35161, Interior & turret detail for Resicast M4A1 75mm dry late (42)**, will work exclusively with the previously released M4A1 late kit (35159). This is quite a thing to see as it includes everything from the firewall forward.

The final version of their U.S. DD tank is also now available. This is officially **35157, Sherman DD M4A1 (late) (43)**. Like the previous Sherman, this is a "soup to nuts" kit with tons of photo-etch material, resin and even markings.

The final jewel in the Sherman crown will be a "big hatch" version of the M4A1 and this can be seen in some of the shots of the interior. More on this kit in the next issue.

More info can sometimes be seen on the Resicast website at www.resicast.com

S&T

If you are looking for the finest 1/16th scale figures anywhere on the planet, look no farther than S&T. They currently offer a set of riders for the big Tamiya Tiger and they have to be seen to be believed. **16016, Panzer Grenadier Unterscharfuher Kharkov; 16017, Panzer Grenadier MG-42 Kharkov; 16018, Rottenfurhrer Kharkov MP-40** and **16019, Schütze Kar 98 Kharkov** join their earlier Tiger crew set. All these cats were sculpted by renowned sculptor-figure-dude, John Rosengrant. John sculpts to a true 1/16th scale and the level of detail he creates on his miniatures is delightful. All these guys retail for $45.00 each.

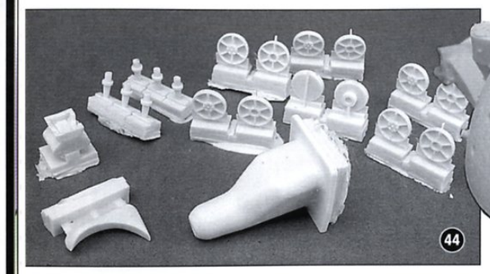
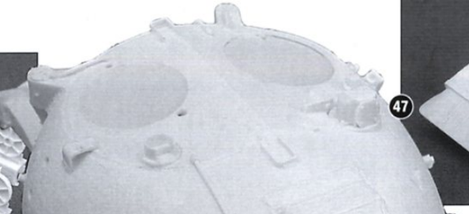
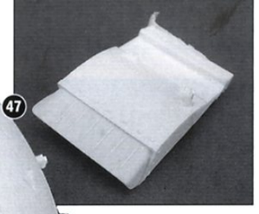
Sculpted by Christoph Bail, but no less drop dead gorgeous are **16020, SS-Sturmmann Ambush at Poteau 1944** and **16021, Gefreiter, Luftwaffe Field Division Anzio-Nettuno 1944**. The retail on these is TBA.

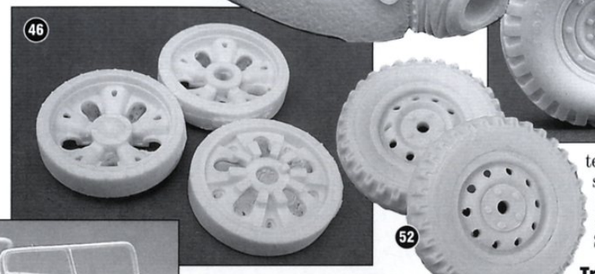
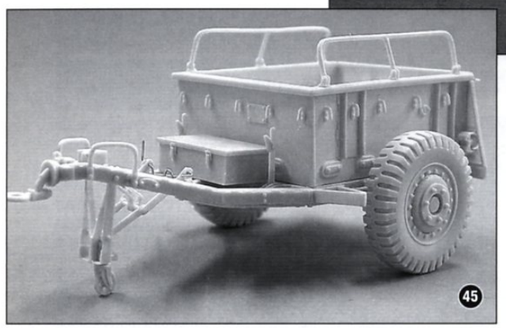
Also look for the upcoming release of two new U.S. tank crewmen in 1/16th scale. Perfect for your Pershing or Sherman 105.

For more information on the S&T line, see their ad on page 8.

The Tank Workshop

More handy items from this prolific American manufacturer. **0028, Commander Cupola for M60 Series**, $9.00; **0097, M5A1 Hull w/Improved Front Plate and Welds**, $16.00; **0098, M151 Mutt Detail Set**, $14.00; **0099, Conversion for Panzer III Command Tank**, $15.00; **1065, 7.62 Russian ammo boxes**, $6.00; **1070, British Boxes for Truck Beds/Tanks (2 per kit)**, $5.00; **1080, Early 75mm short shells for A-F1 German Mark IV (12 per kit)**, $3.00; **2057, Sd.Kfz. 234/2 Puma 8 Tires and Wheels and Spare**, $9.00; **2060, StuG III Detail Set w/Late Mantlet**, $12.00 **(44)**, **2061, Brake Cooling Fan Housings for Pz. III (2 sets per kit)**, $5.00; **2062, Large Pz. III Fender (2 per kit)**, $6.00; **2063, Fenders for Tamiya 250 Half Track**, $12.00; **2064, Large Boxes for 88mm King Tiger and Tiger I Rounds (6 per kit)**, $6.00; **STZ-025, Closed shell boxes for Tamiya Russian 7.62cm Pak 36**, $5.00; **STZ-026, DML Round-Rear Inspection Hatches for T-34 (2 per kit)**, $5.00; **STZ-028, T-34 Door Type Hinge for Rear Armor and Front Idler Adjustment Bolts**, $9.00 and **STZ-029, T-34 Exhaust and Exhaust Covers**, $5.00.

Tiger Model Designs

Just look at the run down from these guys! **352078, 8.8cm L/43 Ammo**, $9.95; **352079, 8.8cm L/43 Cases**, 9.95; **352100, Initial Tiger I Asymmetrical Turret**, $19.95; **352101, Early Tiger I Asymmetrical Turret**, $19.95; **352102, Mid Tiger I Asymmetrical Turret**, $19.95; **352103, Final Tiger I Asymmetrical Turret**, $19.95; **352104, Tiger I Mantlet #1**, $4.95; **352105, Tiger Mantlet #2**, $4.95; **352106, Tiger I Mantlet #3**, $4.95; **352107, Tiger I Mantlet #4**, $4.95; **352114, Tiger I Armored Exhaust Covers**, $4.95; **352115, Early Tiger I Frontal Armor w/Operating Driver's Visor**, $5.95; **352117, Final Tiger I Frontal Armor w/Operating Driver's Visor**, $6.95; **353002, M10 U.S. Ammo Trailer**, $39.95 **(45)**; **353003, U.S. 105mm Trailer Load**, $9.95 and **353004, U.S. 155mm Trailer Load**, $14.95.

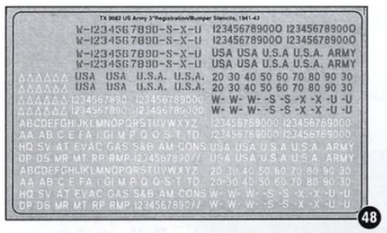
All of the new items feature the now legendary Tiger casting quality and the Tiger I items are certainly something to see. They include a multitude of improved and accurate parts. We would have liked to have seen them—say, a year ago, when they could have saved a certain Editor a ton of work on the Tiger book, but we're not going to say that here... The mantlets are also super handy and the number of configurations is very useful.

And, can we talk about the M10? A logical follow-up to the earlier M8 ammo trailer, this is the larger and more elaborate trailer used in the same capacity. The level of detail on this little model is about as high as it gets. Of course, you get a choice of loads, too, in 353002 and 353004.

Photos and all kinds of cool stuff can be seen at www.tigermodels.com

Trakz

If you need reminding, Trakz is the armor/vehicle line of the VLS mega corp. Check out the following new items. **TX0070, LVTA2 Detail Set; TX0071, LVT2 Detail Set**, $16.95; **TX 0076, T-55 Damaged Roadwheels**, $17.95; **TX 0077, T-55 Roadwheels/Raised Ribs**, $17.95 **(46)**; **TX 0078, Tigers In Tunisia Decals**, $8.95; **TX 0079, Tigers In Italy**, $8.95; **TX 0080, Tigers In Normandy**, $8.95; **0081, IDF Tiran 5 Conversion**, $49.95 **(47)**; **TX0082, 3" Registration/Bumper Stencils 1941-1943 Waterslide decals**, $5.95 **(48)**; **TX0083, Stars and Flags North Africa 1942-1943 Waterslide Decals**, $5.95 **(49)**; **TX0084, Unit Identifiers North Africa 1942-1943 Waterslide Decals**, $5.95 **(50)**; **TX0085, M-1025 Weighted Tires and Wheels (For TA 35263)**, $9.95 **(51)** and **TX0086, M-151 Tires and Wheels** (For Tamiya kits), $8.95 **(52)**.


TX 0082 US Army 3"Registration/Bumper Stencils, 1941-43
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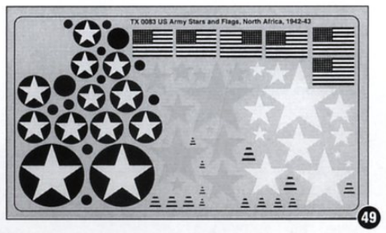
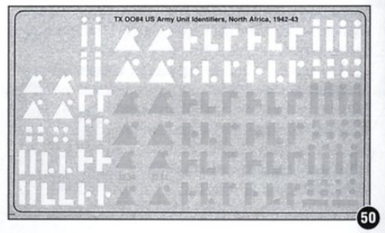




Comments? Well, sure! Although there are several out there, you should really check out the Trakx Tiran conversion. In our opinion, this is the best one available. Douglas Lee, who knows a thing or two about Mid-East armor, mastered the kit. It includes a complete turret and many delicately molded add-on parts.

Interesting story on those U.S. decals. These were originally produced for us as a side project by the author of the Modeler's Guide to the Sherman, Pete Harlem. Due to time considerations, the project sat for a while and then Pete had the opportunity to sell the sets to Kendall Model Company. Well, they also sat on the project for a while then KMC was sold to VLS. All of the KMC products were gradually introduced into their various lines and here we are. That's a round about way of telling you that these are truly terrific decals and the North African sheets are especially useful. The 3-inch numbers are completely unique and are the most common size found on Sherman tanks. Just so you know.

Tristar

Tristar is releasing another version of the diminutive Panzer I. This will be **35008, Panzer I Ausf. A Late**. This won't be just any 'ol second version, it will actually be a new and improved version of the first kit with the later features. Tristar has gone back and corrected many of the small deficiencies of the first kit and offers up an almost brand new model. The kit will also include two new figures that can be built in one of two configurations.

No word on the U.S. retail—stay tuned.

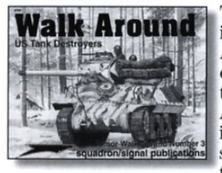
Zvezda

Zvesda is offering what appears to be re boxes of the original DML Soviet stuff. We feel that this is a bit of a discovery, because we have seen folks looking for these kits on the Internet and at swap meets. Here's what we've seen so far. **3552, Soviet Main Battle Tank T-72A**, $23.97; **3556, Soviet Personel Carrier BTR-70**, $23.97; **3557, Soviet Personel Carrier BTR-70 Afghanistan 1979-1989**, $23.97 and **3558, Soviet Personel Carrier BTR-80**, $23.97 **(53)**.

These are imported into the U.S. by Squadron Mail Order and ordering information can be found at www.squadron.com

Book Reviews

Walk Around, US Tank Destroyers
by Jim Mesko
Squadron/Signal publications
Soft cover
79 pages B&W with color
ISBN 0-89747-456-2



THIS IS THE THIRD BOOK in Squadron's "Walk Around" series and is every bit as good as their prior releases. As a matter of fact, it is a great book. In some respects it is their best effort to date, if you consider the number of variants that are covered in lavish detail. All the full track US WWII Tank Destroyers are here, the M10, M10A1, M36, M36B1, M36B2 and M18 Hellcat. This exceptional publication contains over 280 photos, half of which are in color. Most of the interior photographs were taken of fully and accurately restored vehicles. The exterior photos are also mostly of restored T/Ds with a few "gate guards" and a small number of WWII photographs. There are twelve color prints and a four-view line drawing of both an M10 and an M18. The front and back covers have scenic "in action" prints of M10s by Don Greer.

The book's photographs are not its only strong point. In addition to all the great close up pictures of exteriors and interiors of the vehicles, there is an abundant amount of information contained in the captions. Not just weight, dimensions and other specifications (although they're in there), but also a great deal of interesting and useful bits of knowledge. Such as the number of main gun rounds carried, differences in ammo storage racks, intercom systems in the various T/D types and things like that.

This one is a winner; hundreds of terrific photos, along with much useful information in caption form, all at what must be considered a reasonable price. It is a "gotta have it" for fans of U.S. and WWII armor, or for anyone who plans to build a model of one of these T/Ds in the near future. So run, don't walk, to your favorite book supplier and get yourself a copy.

Hetzer & G-13 Vol. 1
by Mike Koenig and George Parada
Kagero publishing
Soft cover
48 pages, B&W with color
ISBN 83-89088-03-7

THIS PHOTO ESSAY STYLE BOOK on the pint sized, hard hitting Hetzer self propelled gun is a handy reference source for details, as well as general information. All the text and captions are in both English and Polish. There are 18 wartime photos, as well as 129 other pictures of restored vehicles showing all kinds of exterior and interior details. About a third of the photographs are in color. In addition, there are 12 very nicely done side view color prints.

The introduction covers the development, production and wartime employment of the Hetzer. Also included (and this we found to be quite interesting), is the post war development and use by the Czechoslovakian and Swiss armies where it was referred to as the ST-1 and G-13 respectively. The Swiss used their G-13s well into the 1970s! Even Israel looked into the possibility of buying some in the early 1950s. As an added plus, there is a sheet of waterslide decals included, enough for about eight different wartime vehicles. So for all you fans of self-propelled guns, don't pass this one by.

WWII US Landing Craft in action
by Al Adcock
Squadron/Signal Publications
Soft Cover
49 pages, B&W
ISBN 0-89747-451-1

OK, NOW JUST STAY COOL and no we have not lost our collective minds (of course that's just our opinion). Yes, this is a book about ships—landing craft to be exact. The type that were at the spear point of every WWII amphibious assault landing from the Solomon Islands to Normandy and Iwo Jima. They did the job and they paid the price for doing it. Lost were 33 LCIs, six LCMs, over 40 of the big LSTs and God only knows how many of the small infantry carrying LCVPs.

As we have come to expect, Squadron/Signal has once again done an outstanding job of presenting the subject matter in a clear, concise and detailed manner. This title contains 110 black and white photos, and 30 line drawings of all the different types of landing craft, landing ships and their AA weapon systems. A centerfold with side views of seven different types of landing craft and landing ships in color is included. Also, in action prints by Don Greer on the front and back covers. There is thorough written coverage on each of the various types of landing craft and ships, as well as much interesting information on them. The captions accompanying the photos are to the point and informative. Several of the pictures taken during the invasion of Normandy are rare, seldom seen photos.

Although the subject matter is a bit different than usual, this title is well worth checking out. For example, an Australian Matilda tank leaving the ramp of an LST, or infantrymen going down the gangways of LCI 553 at Omaha Beach shortly before it was destroyed by German Artillery fire. This is an interesting and informative book that deserves looking into.

Sd.Kfz.182 Pz. Kpfw. VI
Tiger Ausf. B "Konigstiger"
by Waldemar Trojca
Model Hobby
Soft cover
144 pages, B&W
ISBN 83-917049-8-X

WELL, GANG THIS TITLE IS A MIXED BAG OF STRONG AND weak points, starting with a nine-page introduction on the development and production of the Mk VI King Tiger. This is followed by a discussion of the 88mm L/71 gun and technical data with illustrations of the types of 88mm rounds. However, no operational history or tactical employment is included. There are three pages each of line drawings of the power plant and hull. Also, there is a very nice detailed illustration of the turret interior.

There is a section of about 50 black and white wartime photos, not all of which are sharp or of good quality. Then there is a large number (56 pages) of basically redundant line drawings showing multi-views of the complete vehicle, turret, hull and suspension—over 120 drawings in all. Following that are several table of organization charts showing the number of tanks assigned, the tactical turret numbers of each tank and name of the tank commander (when known) with the effective dates. This data pertains to the Heer 503rd 101st and SS 501st heavy tank battalions. It's interesting information.

One of the strong points is the 19 pages of nice quality multi-view color drawings of various Tiger II tanks. The unit is listed with each illustration, as well as where the tank was deployed and the effective date. The book concludes with four pages of CAD drawings of the major component parts of this famous vehicle. So there you have it. If you get the chance, look this one over and you make the call.

M5A1 Stuart
by Krzysztof Mucha and George Parada
Kagero publishing
Soft Cover
56 pages, B&W with color
ISBN 83-89088-04-5

NOT ONLY IS THIS BOOK A GREAT source of information on the M5A1 light tank, but it also includes a high quality 1/35th scale decal sheet containing enough markings for ten different Stuarts. (Four US, four free Polish and two free French) It begins with a six-page introduction covering the development, history and some of the post war service of this fast, reliable little tank. All the captions and text are in both English and Polish. There are seven pages of real nice line drawings, not only the plain view variety, but also detailed close up illustrations of some of the component parts, as well. In addition, there are ten expertly done color side view drawings. Also, there are 17 wartime photos to give you insight on how the M5A1 appeared in actual combat use.

However, the real strength of this publication lies in the 40 color and 87 black and white high quality photographs of a beautiful, completely restored M5A1 that is in the museum collection at Koblenz Germany. Both the exterior and interior are covered by numerous photos, which for the scratch builder or super detailer would be of tremendous help. This title is right on target and is a great reference for anyone building an accurate M5A1.

Book review samples were submitted for issue 34 by Sqaudron Mail order and Air Connection.

CLASSIFIEDS

WANTED: Looking for unbuilt Gunze armor kits. Will trade or purchase. Have large collection with many hard to obtain kits for trade. Send info to Ted Paris, 551 Wegman Road, Rochester, NY 14624.

FOR SALE: Roskopf HO Scale Military Vehicles. German, Russian, NATO, Write for list: Christopher Gill, 580 W. Lewiston, Ferndale, MI 48220-1204.

THE HISTORICAL MINIATURE FIGURE SOCIETY OF COLORADO meets on the first Thursday of each month from 6:30 PM. to 8:30 PM. at the Aurora Central Public Library, 14949 East Alameda Drive, Aurora, CO 80012. For more info contact, HMFSC, PO. Box 461562, Aurora, CO. 80046 (303) 693-7924

CALIFORNIA HISTORICAL MODELERS ASSOCIATION: meets the second Friday of each month (except holidays) in the Provident Bank community room, 1690 East Florida Avenue, Hemet, California at 7:00 p.m. CAHMA welcomes modelers interested in historical scale modeling, including armor/ordnance, aircraft, car/vehicle, historical figures, ship/boat, space/sci-fi, railroad, diorama and vignette. For more information, call 909-652-0556

IN SEARCH OF PENPALS AND MODELERS to exchange with. Can offer all models of Zvesda Plastic Model Co., ICE Co., Alan Hobbies/VM Co., AER, Start Model, models which are of a high class, and some books and magazines on modern military equipment and that of WW2. My interests include weapons of WW2 produced by Tamiya, DML, Italeri and ESCI in 1/35 scale. Also interested in books and magazines on techniques AFV and model catalogues. Write to: Alexandr A. Rjazanov, ul. Kronshtadskaja, d. 75, kv. 19, Makeeva-14, Ukraine - 339014.

MODELER FROM THE UKRAINE who would like to get in touch with other modelers to exchange models. I am looking for contacts with North American modelers. I will answer all letters sent to me. Andrey Kozlov, Zvenigorodska, 12 kw. 43, Zaporozhye - 93, 330093, Ukraine.

WANTED: Looking for a boxed UBER modeling knife set. The company that made them has gone out of business. If anyone has one for sale or has information on how to get one please let me know. Write or call: Larry McHam 1148 Simpson Dr. Hurst, TX 76053, 817-268-3167. E-mail is cynthiam@airmail.net.

WANTED: Concord Publication books: T64 & T90, T54/55/62 and Arsenal of Aggression. I am willing to pay a reasonable amount for these books in good condition. Please send information on these books and prices to John Wiley, 3120 Mountain Pass Road, Troutville, VA 24175.

WANTED: Tamiya photo album gallery books titled "Pachi" Vols. 55 to current issue. Please send info to: David Dees, 8125 Jeanie Lane, Knoxville, TN 37938, 423-922-2891 evenings.

FOR SALE: Built 1/35 scale armor kits. Nicely done with some external detailing. Please advise us of your particular needs or wants. Will consider requests to build. Currently, over 100 finished. **GOOD99** –New list of civilian /political /military/historical related pin, brochures, books, magazines, videos and other items. Mostly WWII to present. Send Two Dollars for GOOD99. Thank You. Bill Whitley, 311 Bundy Avenue, Endicott, NY 13760-3201 IPMS#20788. (607) 748-7922. bill0637@ aol.com.

WANTED: DML/Dragon Red Devils Paratroopers figure kit or resin figures in similar poses. Will pay any reasonable price. E-mail to simon@openstore.com

WANTED: Looking for ESCI 1/9th scale Kübelwagen. Must be unbuilt and all pieces attached. Please e-mail me selling price and cost of shipping to: Ironputts@yahoo.com

WANTED: Pro Models resin 120mm (1/15 scale) SdKfz 234/2 PUMA eight wheeled armored car Unbuilt, built, any condition. Contact : Robert McGuire, 482 W. San Ysidro Blvd. PMB 842 San Ysidro, CA, 92173 USA Phone: (619) 671-5400 (619)662-1420. Email: ignacio@biospherical.com or carellano@hotmail.com

THE OKLAHOMA HISTORICAL MODELERS SOCIETY: meets on the 1st and 3rd Fridays of each month at 7pm. We are one of the oldest chapters in IPMS/USA. For more information contact David Kimbrell at ivandak@aol.com or Rick Jackson at rjackson@socket.net

WANTED: The Show Modelling upgrade #044, for the Italeri German motorcycle and sidecar. Reply to: simon@openstore.com

WANTED: Model Art Co. book, (German Super Heavy Tank Maus) by A. Sergeev, I. Geltov, M.Pavlov and I. Pavlov. I am willing to pay a reasonable price for this book. Contact: Greg Nichols 428 Arrowhead Rd. Selma, AL 36703, phone: 334-875-5164.

WANTED: MMiR back issues #1 to 10, #17 & 19. Hunnicut's Stuart & Sherman books. Squadron Armor #5 Nashorn. These are for using not collecting. Will pay reasonable price based on condition. Contact with price etc. K. Bickel, 1225 Hickory, Palmerton, PA 18071.

WANTED: MB Models APX-4 Turret for the Heller Somua S-35. Alan Denton, 17 Clinton St., Everett, MA 02149. (617) 381-0371. Email: privateer1812@yahoo.com

IF YOU LIKE PIÑA COLADAS, getting caught in the rain, if you're not into healthfood, if you have half a brain, if you like making love at midnight in the dunes of the cape, you're the lady I've looked for, come with me and escape.

FOR SALE: Ten well painted and assembled resin, late World War Two German figures. All are in appropriate splinter, oak leaf or dot pattern camo. Figures are mix of Verlinden, Warriors or Dragon. Asking price is sixty dollars. E-mail Matunk@aol.com.

WANTED: Firepower: A History of the American Heavy Tank by R.P. Hunnicutt, Kirin, catalog, Kirin 150mm figures—Vietnam and Desert Storm. Ed Barber, 5511 Waxhaw Hwy., Monroe, NC 28112. (704) 243-1154.

WANTED: 1/72, 1/76 scale and smaller armor, equipment and figures. Conversion kits and photo-etch kits for small armor vehicles. Books, magazine articles and information on the German army and Italian armies in Africa. Also collecting military and police patches. Please contact Peter Rechkemmer, 2223 Sidewinder, Los Lunas NM 87031.

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WW2 Model Maker	Page 25

WANTED: WW2 book Tigers in the Mud by Otto Carius, Publisher is J.J. Fedorowicz I will pay any reasonable price. Can e-mail me www.orionpete@aol.com

WANTED: Raids Magazine-Les Chars Dc Combat #5, Panzer Magazine- The Iran-Iraq War, Tank Magazine - any issue, Tank Magazine Special T-80/72/64, Verlinden- # 714 T-55 Applique Armor, AEF Designs - any conversion kit (Israeli, Soviet, Iraqi, American) Azimut/ADV-PLO figure, Russian Tankers, French Tankers (Modern), Born in Baffle Magazine-any issue, Military Enthusiast- any issue, War Data - any Issue, RAIDS Magazine - any issue, Friulmodellismo Figures-Iraqi Tankers Yugoslav Troops, Civilian Photographer, Chesapeake Model Designs - T-54 turret, T-62 (early turret) Kirin- ZSU-23 interior. Contact Joseph Chiaramonte, 871126 Ave, Brooklyn NY 11214.

WANTED: Politically incorrect, but so much fun! I'm looking for several of the old 1/24 scale Rommel's Rod kits by Monogram at reasonable prices. Want as builders, so any issue is fine. Contact Ken Mross, RR 1, Box 1029, Bartonsville, PA 18321. (570) 629-0297 evenings. mrossken@cavalier.net

WANTED: assembled or unassembled motorized or static armored vehicles. Contact Bruce W. Smith at gbeske@mn.rr.com or send your list with prices to 5808 Arbour Ave. Edina, MN, 55436.

WANTED: Old Verlinden item #03819? M132 Flamethrower Turret and #0153 & #0159 Verlinden dry transfers. Please contact with info to Chuck Homolka 1230 Hillside Rd. Seven Hills Ohio 44131 or Elvis815@juno.com

WANTED: Model pen pals to correspond with. Share ideas, reference and talk shop. I do science fiction and military kits, robots, mecha, figurines. Scales mostly are 120MM and l/35th-l/32nd scales, this varies depending on the subjects. I can ONLY respond to those in the U.S. and by mail ONLY, as I do not own a computer nor have access to one at this present time. I HOPE this does not keep you fellow modelers from answering my ad. To respond write to: RONALD BAUGHMAN, DS-0988, 1 KELLEY DRIVE, COAL TOWNSHIP, PA 17866

WANTED: MMiR back issues 1 through 19 in perfect condition. Top dollar paid! PAULO TERRA, Caixa Postal 214, Santos, S. Paulo 11001-970, Brasil. FAX: 011-55-13-3222-5248.

WANTED: Allied-Axis volumes 1, 2 & 3. Please contact Pete Samolinski at peteski@charter.net.

FOR SALE: Verlinden Productions Magazines - 26 issues total, all mint condition. All color great articles, ref. photos, models, dioramas, etc. No longer published. Vol. 1-no.4; Vol. 2-no.2; Vol. 3-no. 2, 3; Vol. 4-no.1, 2, 3, 4; Vol. 5-no. 1, 2, 3, 4; Vol. 6-no. 1, 2, 3, 4; Vol. 7-no.1, 2, 3, 4; Vol. 8-no. 1, 2, 3, 4; Vol. 9-no. 1, 2. Becoming harder to find in this quantity and condition. I will entertain any reasonable offers. Don't miss this opportunity! Contact Edward @ 330-677-5513 anytime or e-mail me, Vintilt@aol.com

WANTED: Two Revell of Germany Henschel Jagdtigers. Not the DML release. Also, the back issue of MMiR with the DML Jagdtiger on it. I am unsure of the issue number. Mike Barnes (352) 687-2206. Leave message.

WANTED: No time limit. Please include phone number and price/condition first letter. Armour Modelling #5. Gizmology #1. MMiR V1 #2, V2 #1 and any issues prior to #22. Steelmasters #2 and #32. AFV News and TANKETTE 1993 through present. US and foreign IPMS publications. Dio Bldg. and etc.: Deauville's #110 'The Bridge,' #112 Russian Log Cabin. Kurton #007 3-story 3-sided ruined bldg. Magus Program Design/Stevens Architectural 1/35 French Corner Cafe, Russian Wood House, Small Wood Barn and/or any of their blueprints. Delta and Remi 1/35 vacuform bldg. facades. Kits/Figs./Etc.: AMT-Palmer-Pyro 1/32 1940 Ford Tudor sedan. All 3 are different molds. Perry vacuform conversion for 1/32 Matchbox Legere. Still need 87 and 88 DML/Dragon catalogs. Need several 1/48 Bandai #8274 Fences and #8252 Bridge Girders. Thanks to all who helped with previous wants. Mike Overstreet, 5257 Luwana Drive S W, Roanoke, VA 24018-3323. 540-774-7244 7PM-10PM Eastern.

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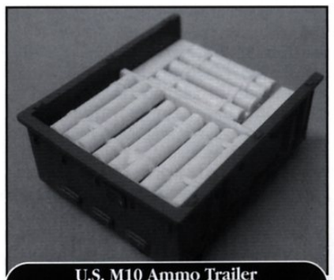

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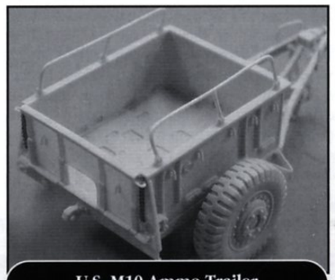

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TRY THIS CZECH HAMMER

Converting the Tamiya T-55 into a Czech T-55AM2 Tank

Okay, we brought you the basic Tamiya T-55 kit, now how about some variations? The first variation will be a PanzerShop conversion kit that turns the standard T-55 into a Czech Republic T-55AM2. As you probably already know, the Soviets built the T-55 for more years and more numbers than any other tank in the post war era. Consequently, it was upgraded a number of times. In 1981 an effort was started by the Soviets to try and bring it up to the T-72 in general capabilities. The original upgrades were called the T-55M1 and T-55AM1. In 1983 this new upgrade was fielded and included BDD (Horse-Shoe) appliqué armor to the turret, rubber side skirts, plus a new laser range finder, extra armor plating and a new engine. This upgrade package was also offered to the Czechs, East Germans and Poles, so they could upgrade their ageing fleet of T-55's. The new package for the WARSAW Pact partners is called the T-55AM2.

The BDD panels, or boxes are constructed from armored steel and filled with penapolyurethane, plus there are hollow spaces, which in wartime would be filled with either sand or water. The Czech's also replaced the Soviet KTD-2 laser range finder with one they developed called the 'Kladivo" or Hammer. The most noticeable difference is the circular opening in the front. Since the sensor sits back, it appears empty. Part of the Kladivo system is a wind sensor that is carried on the rear center of the turret and when not being used, is stored in the lowered position. This sensor is also sensitive to laser range finder emissions.

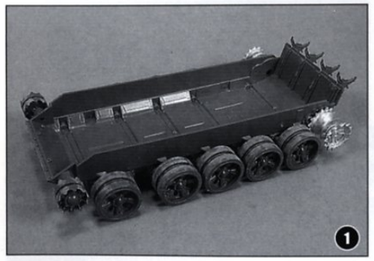
The T-55AM2 uses the TShSM-32PB site, but some later models use the IK13 laser site, which is associated with the Bastion anti-tank missile system. The T-55AM2 fitted with this site and the capability to fire the Bastion is designated the T-55AM2B. The PanzerShop conversion is only for the T-55AM2, since it does not include this new site.

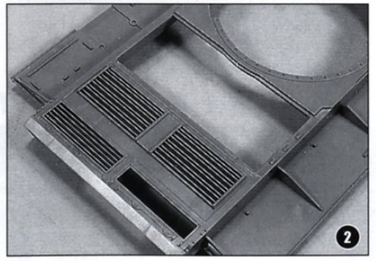
The engine for the T-55AM2 was upgraded to the V-55U or V-46-5M engine and a new thermal sleeve for the main barrel was also added. Recently, the tracks of these older tanks were upgraded to the T-72 tracks. This included replacing the drive sprockets to handle the new tracks. Okay, now what does all this mean? Let us look at the conversion and see what we get.

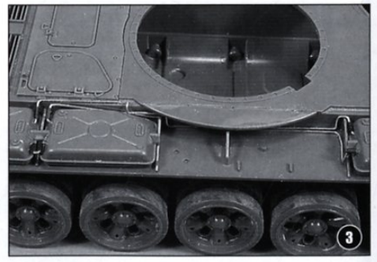
PanzerShop's conversion

As mentioned, I already built the Tamiya T-55 kit from the box, so I was ready to try something a little different that would give me an excuse to build a second one of these babies. Sure enough, along came PanzerShop with their T-55AM2 "Hammer" conversion. I had actually purchased the previous conversion, which was designed for the older T-55 kits like the ESCI, but had not built it. However, when I asked Libor Matejka, the owner of PanzerShop, if this older kit would work on the new Tamiya kit, he told me to wait a few days and he would send me a new kit he had redesigned for the new Tamiya kit. Sure enough, a few days later, I got the updated conversion kit in the mail. This new kit consists of 45 parts cast in light beige resin. Additionally, there is a photo-etch sheet of 24 pieces, a decal sheet with markings for two Czech tanks, a Model Point antenna base and a hollow rubber fuel hose. Libor actually sells two versions of this kit, with one labeled "High Tech," containing the Friulmodellismo T-72 tracks. This is what I got. The instructions are the normal photos of the completed model with arrows pointing to the different items to add. These are adequate, but there were a few areas that could have been covered better. I will mention these as we get to them.

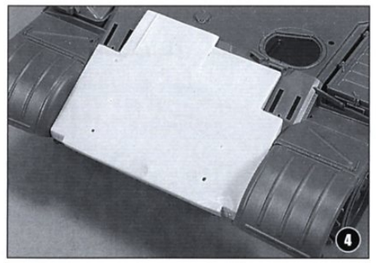
For those of you who have been asleep for a while, the Tamiya kit of the T-55 is one of those kits that you can pretty much add a little glue to, then shake in the box. The kit consists of five sprues in dark olive green, for a total of approximately 279 parts. There are also the usual poly caps, string for cables, mesh for screens and of course, the glueable rubber band tracks. The instructions are the normal high quality.

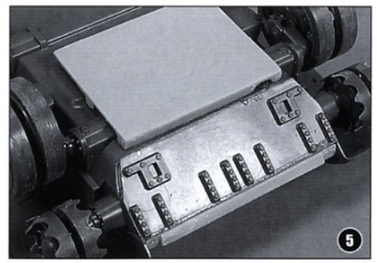


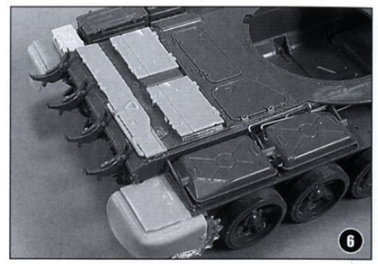


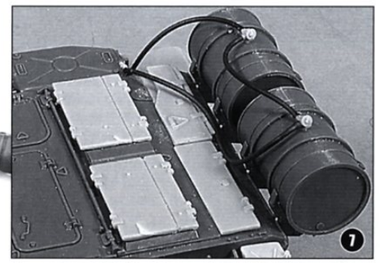


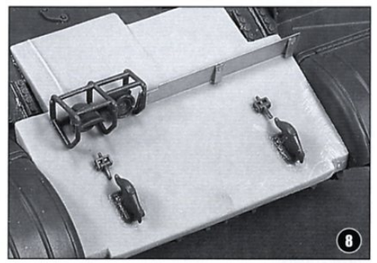
1. The basic T-55 hull without any changes, except the Friulmodellismo replacement drive sprockets for the T-72 tracks. 2. The only extra cutting needed on the upper hull was the removal of the two rear mudguards. 3. The required connection hoses for the external fuel cells were made out of brass wire and hollow rubber tubing.

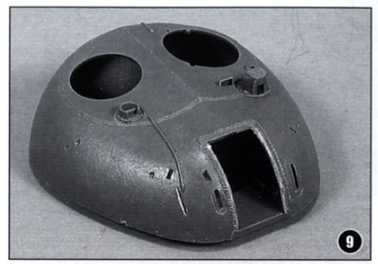


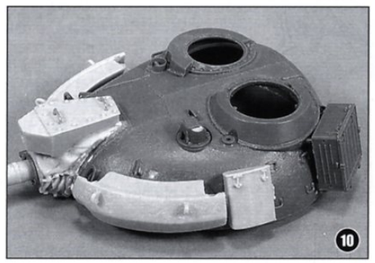


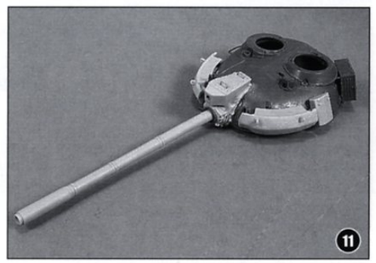


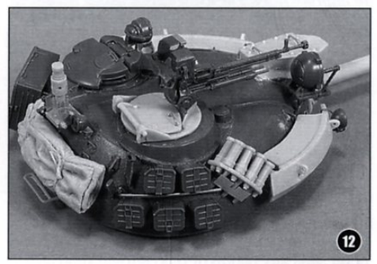












4. The extra armor shield, R1, needed a little trimming to get it between the fenders. The holes are only good for location, since the tow hooks have large square pegs. I just cut the pegs off and then glued them to the plate. 5. The lower anti-mine plate, R2, fit was good and it sits right over the different bumps on the bottom. 6. I went the easy route here and glued all the hatches closed. There are really no previsions to have them open, since there is no detailing on the insides of the hatch castings. 7. The two rear tanks are provided with a fuel pumping system similar to the T-72. I replaced the hose from the PanzerShop kit with thinner rubber hose I picked up at my local hobby store. 8. The headlight rack was assembled and after drilling the holes deeper on the resin plate, it was glued into place. Notice that the swim vane is shorter than the normal T-55 vane, which goes the whole width of the glacis plate. 9. The mantlet area was first removed from the turret following the PanzerShop instructions. 10. The left BDD box went on with much difficulty. Be sure to drill out the holes for the large box on the left rear. There was some filling required around the new mantlet and Hammer laser range finder. 11. The thermal sleeve replacement barrel only required minimal clean up. Be sure to glue the ring around the mantlet for the searchlight before gluing the barrel on. 12. The right BDD box looks a little long to me. I had trouble getting everything in place on the turret because of it. I replaced the kit grab bar with one made from brass because the kit one was too long.

Starting on the bottom

All the PanzerShop conversion parts are on the upper hull and turret, except for the anti-mine plate. I started by following the Tamiya instructions and assembling the roadwheels and idler. Since I was using the newer Friulmodellismo T-72 tracks, I used their metal replacement drive sprockets instead of the kit's T-55 sprockets. The axles were then glued onto the hull and the few detail items glued to the back hull, including the tow hooks. Watch the axles, since these parts look very similar.

The only modification to the hull top was to remove the two rear mud flaps as shown in the PanzerShop instructions. I then glued on the small fender supports and attached the hull top to the bottom. The fit was almost perfect. The one area I absolutely have to improve on any T-55 or T-62 kit is the connecting hoses that run between the three right fuel cells. I drilled out the holes in all three fuel tanks, and then used brass wire and hollow rubber hose for connectors to fashion the connections.

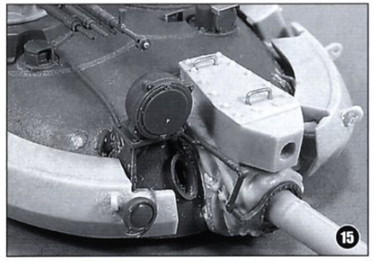
According to the PanzerShop instructions, the small oil tank, D36, needs to be moved to the left fender over the exhaust. This means you need to remove the mounting pins from the right fender. Also, there are two resin boxes, R12. One goes next to the forward tank on the right fender and the other goes on the rear left fender. Otherwise, I assembled and installed all the boxes on the fenders following the Tamiya instructions.

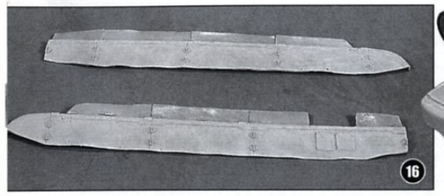
The anti-mine panel that goes underneath the forward plate, R2, was cut off its sprue and glued to the bottom of the hull. The upper glacis plate armor shield, R1, was also cut down to fit over the forward part of the glacis plate. This glacis shield has holes to show approximately where the lights and tow hooks go. The tow hooks, A26, and their safety latches, A2, were glued on after I removed the mount tabs. I then drilled out the one headlight for an IR MV lens and assembled the headlight rack. The location holes for the headlight had to be drilled to allow the headlight rack to be glued in. I constructed the PanzerShop photo-etch swim vane, which is shorter than the standard one on the T-55, and glued it on. The small marker lights were then glued on. The four dozer blade mount points, D26, were glued on and the small holes for parts, A43, were filled, since these were not used. The driver's hatch with the extra shield on top was then assembled and glued in the closed position.

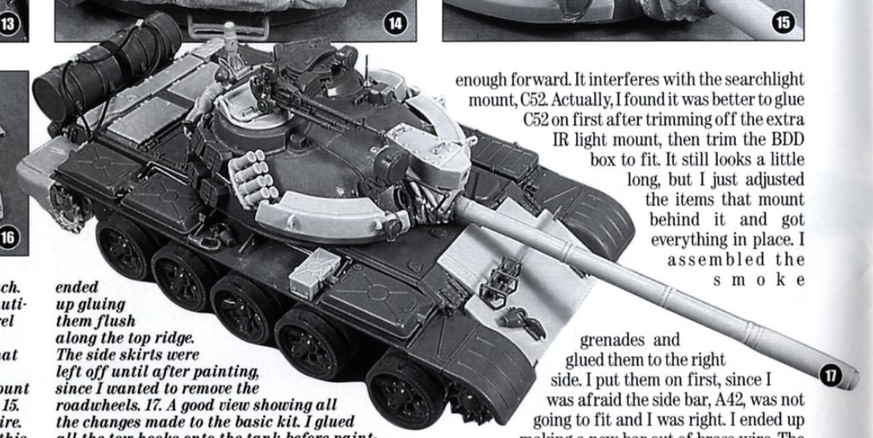
The rear deck plate, D41, was glued on, then the main hatch cover, D18. You do not need to bother with the screen since the hatches cover them. I then glued on the two hatches, R22, and the two rear ones, R23 and R24. You do not use Parts D7, 8, 10 or 11 on the rear.

Rear fuel tanks

I glued the two 200 liter auxiliary fuel drums together and cleaned up their seams. I then glued them onto the rear mounts. Now for something a little strange. PanzerShop includes tubing and a pump







13. The Model Point antenna base is a nice touch. The 12.7mm DShK Heavy Machine gun is a beautiful work of art and I only drilled out the barrel to improve it. 14. The wind sensor was a little tedious to assemble since it has eight vanes that go around it. The rear light is not part of the Tamiya kit, but PanzerShop does provide a mount and there are plenty of extra lights in the kit. 15. The searchlight was spiffed up using solder wire. The small IR light mounts on the BDD box on this version, instead of on the main searchlight. 16. The only difficulty with the side skirts was gluing the top pieces onto the skirts. They are separate and I was not sure where to glue them. I ended up gluing them flush along the top ridge. The side skirts were left off until after painting, since I wanted to remove the roadwheels. 17. A good view showing all the changes made to the basic kit. I glued all the tow hooks onto the tank before painting, then added the wires later. The small oil reserve tank that normally goes on the right fender is moved to above the exhaust housing on this version.

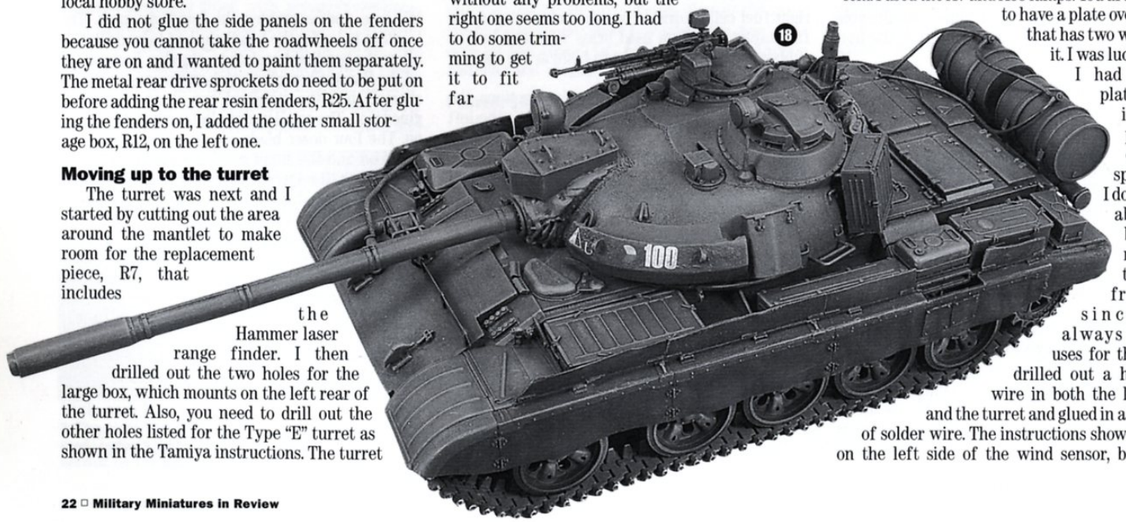
to give the tank the same automatic refueling setup that is found on the T-72. The problem is that I have never seen any photos of this configuration on a T-55. Oh well, who am I to argue? Anyway, I think this tubing looks really cool. So I went along with Libor's set up and glued the fuel pumps on the two auxiliary drums using an old T-72 model as a guide. The instructions are not clear as to where the pump goes on the tank, but on the T-72 it goes on the rear external fuel cell on the right fender, so that is where I glued this one. The one problem I had with the PanzerShop kit was that the rubber tubing that Libor included is way too big. I substituted some thinner, hollow, rubber tubing I had gotten from my local hobby store.

I did not glue the side panels on the fenders because you cannot take the roadwheels off once they are on and I wanted to paint them separately. The metal rear drive sprockets do need to be put on before adding the rear resin fenders, R25. After gluing the fenders on, I added the other small storage box, R12, on the left one.

Moving up to the turret

The turret was next and I started by cutting out the area around the mantlet to make room for the replacement piece, R7, that includes the Hammer laser range finder. I then drilled out the two holes for the large box, which mounts on the left rear of the turret. Also, you need to drill out the other holes listed for the Type "E" turret as shown in the Tamiya instructions. The turret bottom was then glued to the top. The mantlet piece was glued in, but it did require some filling around the edges. The searchlight ring, C15, was then glued onto the mantlet before the replacement thermal sleeve barrel was glued on. I added the hooks on the back of the turret, again following the version "E" guide. I glued on the two new large hatch rings, B16 and B17. There are a few holes that need to be filled. Actually, they are just dents in the turret for the different bars. You will only need to glue one of these bars on to the right rear, but wait until you get the BDD boxes and smoke grenade launchers on.

I then cleaned up the two resin BDD boxes and glued them on. The one on the left, R3, went on without any problems, but the right one seems too long. I had to do some trimming to get it to fit far enough forward. It interferes with the searchlight mount, C52. Actually, I found it was better to glue C52 on first after trimming off the extra IR light mount, then trim the BDD box to fit. It still looks a little long, but I just adjusted the items that mount behind it and got everything in place. I assembled the smoke grenades and glued them to the right side. I put them on first, since I was afraid the side bar, A42, was not going to fit and I was right. I ended up making a new bar out of brass wire. The machine gun ammunition boxes were then glued on.



I feel a breeze

The wind sensor was a little difficult to figure out, but if you look at my photographs you should be able to see where everything goes. The sensor has four holes that need to be drilled in it. It was then glued to P11, which is a base with slots for the vertical vanes. This piece is then glued onto the resin part, R16. After I glued the sensor, R18, on the base, I glued the eight vanes around it. This whole thing was then glued onto the main photo-etch base piece, P1. There are two large bolt heads, R17, which are glued on to the right side of P1. This whole contraption was then glued onto the rear of the turret, which should be centered. Libor's instructions show a large rear lamp on the turret, but the kit does not have one there. The good news is that the Tamiya kit provides a number of extra lamps, so no problem. I used the A7 and A38 lamps. You are supposed to have a plate over this one that has two windows in it. I was lucky in that I had a spare plate like this in my photo-etch spares box. I do not know about you, but I never throw old frets away, since I am always finding uses for the parts. I drilled out a hole for a wire in both the lamp base and the turret and glued in a thin piece of solder wire. The instructions show this lamp on the left side of the wind sensor, but all my

18. The tank was painted with Tamiya black green, then lightly sprayed with lighter shades on the upper surfaces. The decals were from the PanzerShop kit and went on with only a little Solvaset help. 19. The DShK was painted with a mixture of gunmetal blue and black Vallejo paints. 20. The tarp was painted and weathered using Vallejo paints. The rear light had a MV lens glued in, then the cover was added.

A. This is a former East German T-55AM2 that is now owned by the Virginia Museum of Military Vehicles. The IR light and main marker light. The swim vane stops at the headlight rack, unlike a regular T-55. B. The Czech Republic "Kladivo," or Hammer laser range finder that replaced the Soviet KTD-2. Also notice the extra shielded driver's hatch. C. The side skirts are just heavy reinforced rubber and one can only wonder how effective they are. D. The rear fuel tanks and snorkel. The metal bar across the snorkel is an East German item to prevent damage to the snorkel due to careless driving.

references show it on the right. There is a photo-etch mount, P3, for it. There is also a small marker lamp that goes on the rear. The mount is P2, but you have to trim the kit lamp, C59, down to fit. I also ran a thin solder wire from it to the turret. The placement for this guy was also questionable, but I went with the PanzerShop instructions this time and placed it on the left side of the sensor mount.

I assembled the 12.7mm DShK antiaircraft machine gun with the only modification being drilling out the barrel. The machine gunner's hatch for this version is different and the ring and hatch both are provided in resin. The commander's hatch and searchlight were assembled without any changes. The Model Point antenna base was glued on and the photo-etch shield, P7, was added to the site.

The main search light area was started by gluing on the connecting arm, C36. I then glued the searchlight and base together and drilled a hole in the bottom where the power connection goes. I also drilled a hole in the turret at the base of the power cable conduit. The small coaxial mounted light had a thin solder wire added and then was mounted on the BDD using the photo-etch part, P6. Last, I glued the main searchlight on using medium weight solder wire for the connection.

The lower part of the side skirts is one piece, but the top pieces are separate. I had a little difficulty figuring how to attach them. I believe you are supposed to glue them flush against the top of the ridge that runs down the skirt. Anyway, that is what I did and they actually look okay. I glued the tow cable heads on the tank before painting, so all I would have to do is glue the tow cables on later.

The Friulmodellismo tracks were assembled using the wire provided in the kit. The castings were a little rough and it looks like it is about time for Friulmodellismo to replace the molds. I only had to drill out a few of the holes. I put a drop of superglue in each to keep the wire in. The tracks were then put into a bath of vinegar for 12 hours to begin the weathering process. I then put them in Blacken-It for about 5 minutes. Finally, they were given a wash of black/burnt umber oil and scrubbed with a green kitchen soaring pad.

Easy paint job

The roadwheels and side skirts were first painted with Tamiya XF-1 flat black, then using a masking template for the roadwheels and tape for the side skirts, were painted with Tamiya XF-27 black green. The rest of the tank was also painted at the same time in black green. I then lightly sprayed the top surfaces with a mixture of dark yellow and deep green to lighten the tank. Clear gloss was sprayed on the BDD boxes, since this was the only place to receive decals. The PanzerShop kit includes decals for two different Czech tanks with accompanying illustrations for placements, but, unfortunately, the units are not listed. I cut the decals out and placed them on with the aid of a little Solvaset. The details were painted using Vallejo paints and then the whole tank was sprayed with a thinned Polly Scale satin.

The tracks were then put on and the side skirts were glued on. After touching up paint around the skirts, I gave the tank a wash of black/burnt umber oil paint. Dry brushing was then done very lightly using white, sap green and burnt umber oils. I added a red MV lens for the small front searchlight and rear marker light. The forward IR light got also an IR MV lens. Unfortunately, MV only makes one size IR light (#32) and that is too small for the upper IR light. I then added the Karaya copper tow cables, which earlier had been soaked in Blacken-it.

Summing it up

The Tamiya tank practically builds itself, so I cannot say enough good about it. The PanzerShop conversion is an easy way to change it considerably with a minimum of effort. I built the kit in only a few days, plus a couple to paint it. I highly recommend this conversion. If you don't want to upgrade to the T-72 tracks, I would go with the cheaper option and buy the conversion kit without them, because the Tamiya tracks are fine. My next project for the Tamiya T-55 will use the Trakz conversion to create an IDF Tiran 5.

—Jim Hensley

MMiR RECCE

Tamiya T-55A. Kit number 35257. Suggested retail price $50.00
PanzerShop Conversion T-55AM2 "Hammer" High Tech. Kit number PS35217HT (includes Friulmodellismo Track and Model Point Antenna base). Suggested Retail $69.00

References

Zaloga, Steve. *T-54 T-55 T-62*, Concord Publications Co., Hong Kong, 1992. A good book with lots of photos including both Polish and Czech versions.

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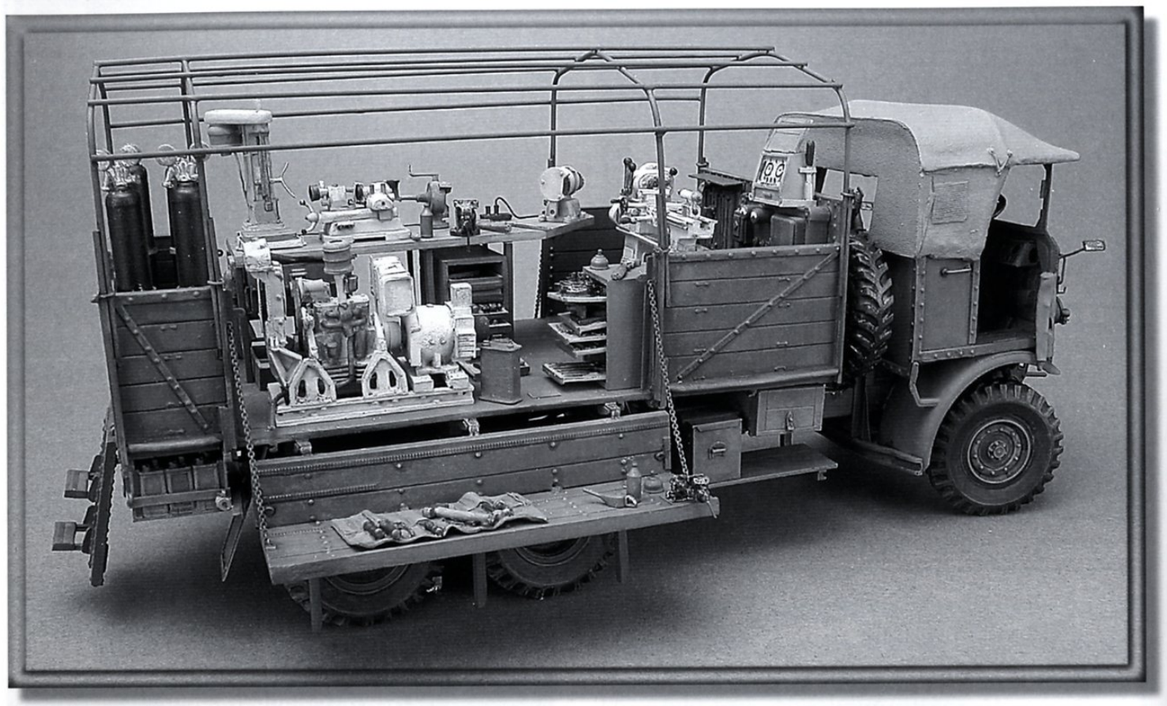


The Leyland Retriever was an older design of three-ton truck, dating from the mid-1930's. It was designed by Leyland Motors and powered by a 360 cubic inch, four-cylinder petrol engine. It delivered 73 BHP at 2120 r.p.m. Between 1933 and 1944 approximately 6542 vehicles were built for general service, searchlight, stores, bridging, wireless, mobile cranes and other vehicle tasks. Some of the machinery vehicles had flat floors while others had raised wheel wells or house bodies that were totally enclosed. Canvas tilt bodies, partial and full windshields and soft-top cabs provided some protection in inclement weather. The rigid six-wheel chassis was manufactured to War Department specifications and had four forward and one reverse gear. It had a fuel capacity of 31 gallons and provided a range of about 195 miles. Many vehicles were kept in Service until the mid 1960's and performed well.

Resin kit

Resicast's kit No.35.162 arrived in a stout box with all the parts well protected in baggies and bubble wrap. There were over 200 resin parts and over 150 photo-etched parts on four frets. There were plastic channels and brass rods for the body tilt and a sheet of excellent decals. A nicely detailed mechanic with gloves and goggles was also provided for dioramas. Lenses with mesh patterns for the headlights were cast in clear resin. The machinery for the workshop were miniature kits in themselves with outstanding detail. Resicast's instruction booklet consisted of 36 pages with photos of the kit in progress, pictures of a real vehicle, drawings and photos of veterans and their vehicles. All of the resin and photo etched parts were on a list with their descriptions, so parts were easy to identify. The kit was virtually bubble free and most of those that did occur did not break the resin surface. Resin templates were provided for the engine cover and body tilt. Parts were straight and once the resin plugs were removed, little sanding and clean-up was required. As stated in the instructions, this is not a kit for beginners, neither can it be assembled in an evening, so be prepared for an enjoyable challenge.

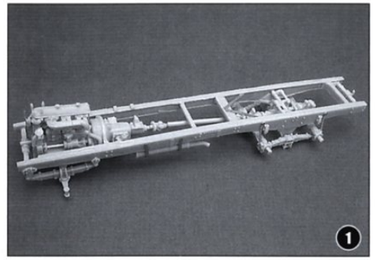
Chassis and suspension

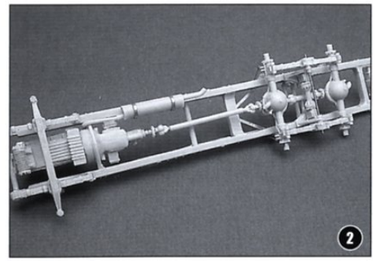
The main chassis and axles had brass rods cast into the resin so there was little chance of warping due to the resin's weight over time. This is a good sign of a fine quality kit, as resin kits have been known to deform. Crossbeams and towing hooks for the rear were added. The rear chassis was the most difficult assembly stage of the kit and it was recommended that the parts be test fitted several times before applying glue. The photos needed to be studied carefully in order to orient the parts correctly. Dimensions in millimeters were provided for setting the axles properly. Resicast also provided several footprints on the various parts to make assembly easier. The resin casting was excellent, with all the fine detail on the springs showing up, even brake lines on the axles.

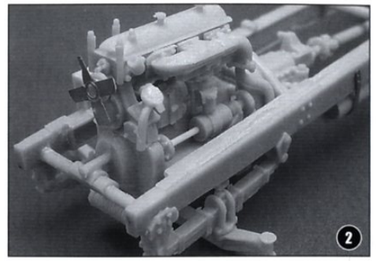
The front wheels were designed like a ball and socket joint to turn in any direction, just like the real thing. The steering linkages were done next and this involved several small parts like the steering knuckle, link, steering rod and plate.

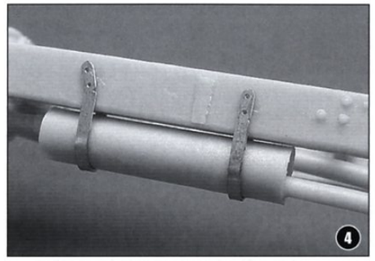
Engine

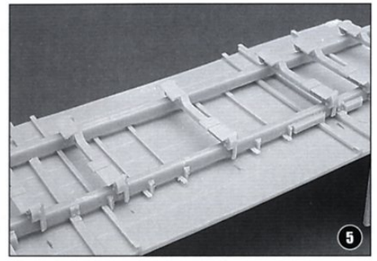
The engine is a beauty by itself and it was possible to display it, as the engine cover is photo-etched and can be removed from the cab. Most of the engine was resin and a photo-etched fan and some plastic rod were added to detail it. The drive shafts were added next, together with the exhaust pipes, muffler and brass supports. The brake cylinder was left off until later to avoid fouling the cab. At this point the instructions recommended that the rear axles, gearbox, drive shafts and engine be painted, as the cab would obstruct them once in position. The engine cover was made up of three large brass etchings and supports. The engine can be closed or opened for display. Two etched handles were added to the engine cover and some parts of the cover were removed after painting to display the fine engine detailing.

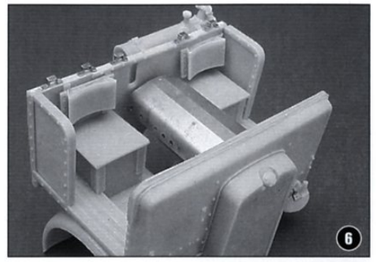


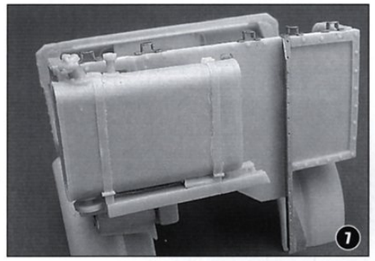


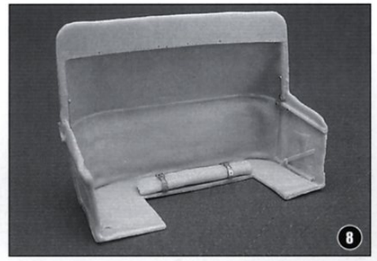


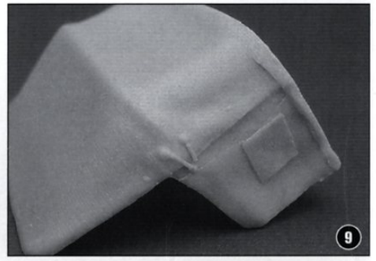












1. The sturdy chassis with engine, drive train and suspension in position. Wire rods in the frame and axles provided support for the heavy kit. 2. Underside view of suspension and engine. The suspension was set up parallel to the chassis before final gluing. 3. The beautifully detailed engine with photo-etched fan and styrene rod additions. The interior engine cover can be left off to display the engine. 4. Muffler was secured to the chassis. Note rivet detail and anchor points on frame. 5. Underside view of rear body. Ladder frame secures to chassis and consisted of several parts. 6. Shot of cab showing photo-etched engine cover, seats and detailed floor. Detailed radiator grill, light stands and rear cab top tie-downs. 7. Petrol tank secured to rear of cab. Well detailed fuel cap and securing straps. The metal angle iron secured the cab and chassis. 8. An underside view of canvas cab top, showing rear window, rolled flap with straps and hinges for tubular frame support. 9. Canvas cab top with side window and straps. Minor sanding was required to remove the mold lines.

Cab

Several parts of the cab were photo-etched and required bending. Resicast recommended heating the brass to reduce the spring. A resin template provided was used to form the brass to the correct shape. Holes were drilled and some thin film was removed from the cab floor for attaching the driver's clutch, brakes and control levers. Some half round rod was added to the brake lever grip and the gear shift was replaced by a pin with an oval head. The clutch and brake pedals actually go through the floor and attach to the cab's underside. The mudguards were fixed in position and all resulting gaps were filled with PVA glue. The fuel tank and fill cap were well detailed with straps and wing nut. Thin copper wire was added to the auxiliary fuel tank and directed down to the chassis. Some parts had their numbers mixed up but the photos were used to sort everything out. The air filter required an outer etched part before placing it under the cab. The steps for the crewmen were folded etched parts and required some cutting and filing in order to fit between the mudguards and the rear of the cab. Grab handles were fashioned from copper wire and added to the front near the windshield and also to the sides of the cab. Careful observation of the photos assists tremendously in placement and fitting of the various small parts and cannot be overemphasized.

Spare Wheel

The spare wheel was mounted on a frame, which was mechanically raised and lowered by a cable and pulley system. Pictures of this item were not very clear so it took a little longer to sort things out. A few extra pieces besides the brass parts, were cobbled together to represent the pulley and a cable was added. This assembly required a few test runs before the wheel would fit properly into the carrier and then be mounted behind the cab. This section was left off the vehicle and painted at a later time.

Windscreen

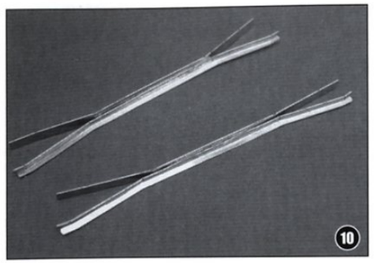
Clear acetate for glazing and three photo-etched parts made up the windscreen. One of the brass frames was used as a template for cutting the acetate sheet. The glazing was left off until after painting, as were the wipers and rear view mirrors. White glue was used to secure the acetate to the frames. The rear view mirrors were glazed with Mylar from a candy wrapper.

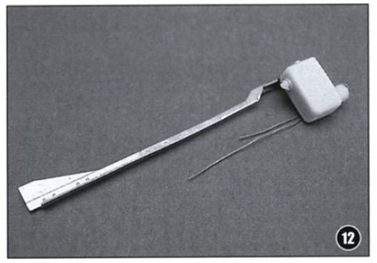
Canvas Hood

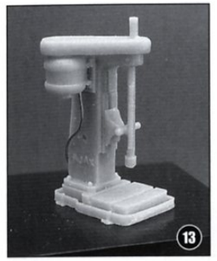
The real hood was made of thickly painted canvas and Resicast did a lovely job of getting a nice fine mesh to show the pattern. In scale, this pattern would not be visible and can be hidden by a few coats of paint. To each his own. Brass brackets for folding the hood fit inside the canvas top and the rear window had a rolled canvas shade and brass straps. The cab tilt was a little snug and required some thinning at the bottom edges for it to fit with the fuel tank. With a little nipping and tucking here and there the top fitted fine and could be removed to display the interior of the cab.

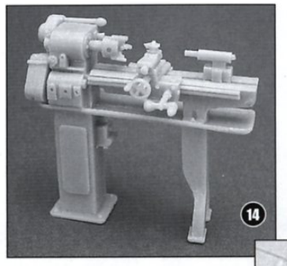
Cab Front

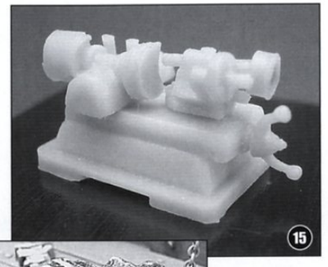
The gas warning panel was made up of three brass parts and was fitted in front of the windshield on the passenger's side. This panel was painted with a light green colored paint that changed color when it contacted various types of poison gas. Brackets for holding the front tilt and the small side lights were added. Springs and cord held the top in place and showed the vehicle's antique characteristics. A beautifully etched retriever insignia or logo was added to the bottom of the radiator. The brush guard was also well done and consisted of two-sided brass etchings, brass rod and resin caps

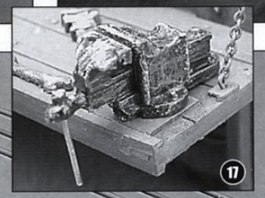


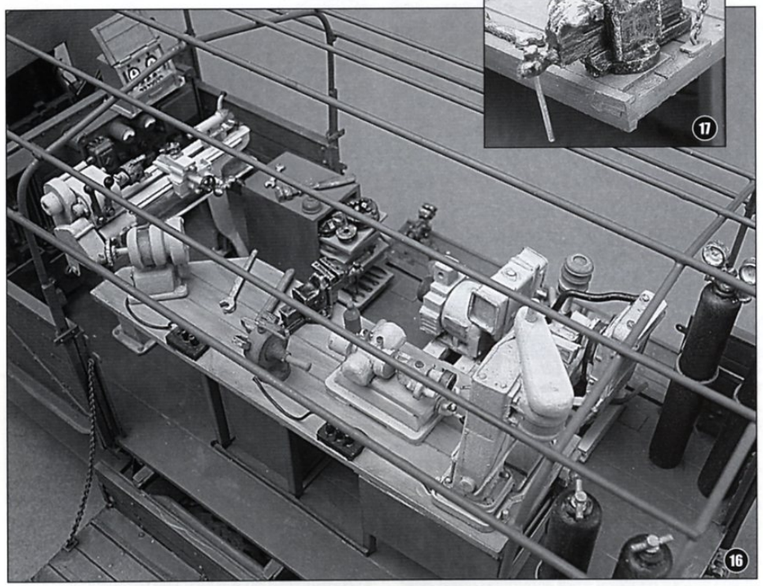












10. The photo-etched frames for the side doors required careful bending and gluing. They acted as stops for the side doors when folded down. 11. The spare wheel frame consisted of several photo-etched parts and required careful bending and test fitting for good fit. Rivet detail and cross members were well depicted. 12. The metal support for the auxiliary fuel tank secures to the chassis and the back of the cab. Copper wire was used for tubing that ran between the auxiliary tank and the main petrol tank. 13. An Ajax drill press with soft solder representing the electrical wiring. Lever and drill bit are to be added later. 14. The beautiful metal lathe consisted of several resin parts and was a detailed kit in and of itself. 15. The valve resurfacer was composed of several small resin pieces. 16. A top view of workshop platform showing the well-detailed tools and machinery parts. 17. The side door folds out and down to form either a workbench or increased the floor space by folding flat out. A well detailed kit with many small parts and excellent molding. 18. Electrical wiring was formed from thin solder and inserted into the resin outlets. Storage cabinets can be seen below the workbench. Extra supports were added to the bench legs.

Styrene channels were provided for supporting the body tilt. Several times I contemplated replacing these with the same shapes, but in brass for strength. The tilt frame was attached with 'U' brackets made out of wire and photo-etched plates with holes. The welding bottles with straps, battery charging board and other electrical fittings were added at this time, as painting them would be difficult once the tilt frame was in position.

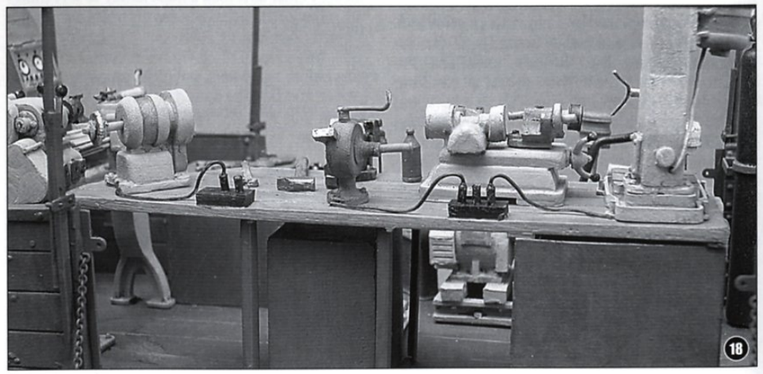
Body Tilt

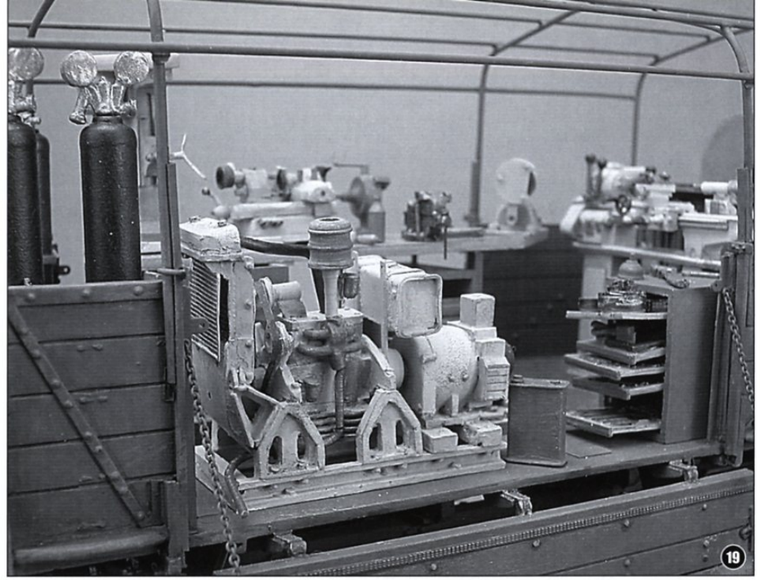
Resicast provided brass rods and a resin template to shape the tilt hoops. To accurately locate the hoop holders, the vehicle was turned over onto a sheet of paper and the eight locations from the channel iron strips were marked off. The paper was then transferred to a piece of wood and holes were drilled at the marks to an even depth. Marks on the drill bit were made by masking tape to ensure a fixed depth. The hoops were now fitted into the holes, adjusted and the seven top lengths were glued. Soldering would have been better than gluing and much stronger but that was beyond my skill and equipment. Rubber reinforced cyanoacrylate glue was used as this provided better shear strength and allowed minor hits and rough handling without the rods popping off.

for the ends. The clear resin lenses for the lights were an innovative feature and even showed the raised mesh detail of the glass lenses. The steering wheel was outstanding and showed a leather grip with the lacing to the inside. The detail was amazing. This was also left off until the vehicle was almost completed and painted.

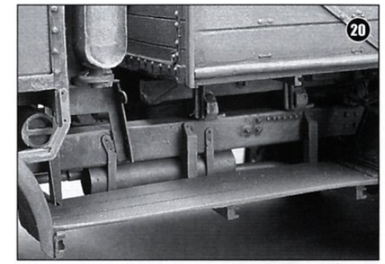
Rear Body

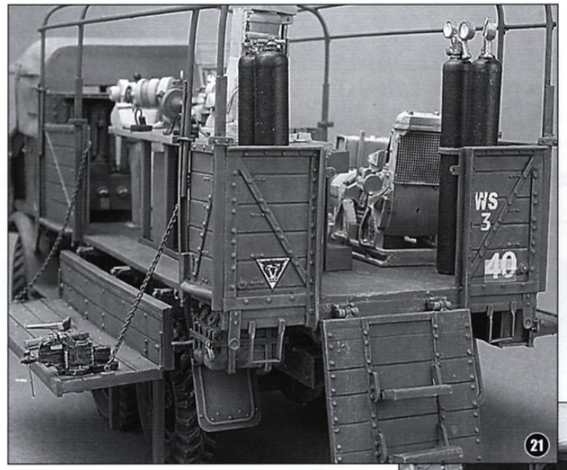
The rear body was cast with sturdy supports where the rear and side access doors were located. These were removed with a saw and the body remained straight and even. This was a good design by Resicast to prevent warping. There were many supports made from resin and brass that were required below the body and the pictures and drawings were essential for correct placement. Mudguards, struts, running boards, POW holder and Jerry can rack were also added to the underside.





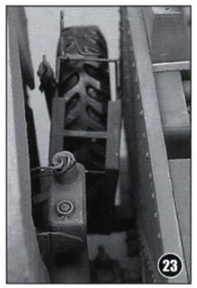
19. A plethora of machinery tools, drawers full of hand tools, welding equipment, generator and electrical meters, control boxes and switches. 20. The running board was secured to the mud flap and front fender. A metal support secures the petrol tank to the chassis. Behind the driver's footstep is the air filter. 21. A rear three-quarter view of the workshop truck showing the markings. Side and rear doors were lowered to expose the well-detailed interior. 22. A front three-quarter view showing well detailed cab and turned front wheels. Clear resin headlights were a welcome addition. The three-part photo-etched windshield frame awaits acetate glazing. Straps for the canvas top were added later. 23. The spare wheel and petrol tank were secured between the cab and the machinery body. A cable and pulley system allowed the heavy wheel to be raised and lowered as required.





Wheels

The wheels were added before the body doors and were painted in position. Some spots were a little difficult to reach by brush, but eventually everything was painted black. It might have been simpler to paint the body, then add the wheels and, finally, add the body doors. The wheels were oriented with the "V" tread facing down as viewed from the front. A little clean up was necessary when removing the resin plugs and clearing the tread pattern. The hub caps were glued as directed. The front wheels were pivoted early in construction and this was found to be a very appealing feature on this fine kit.



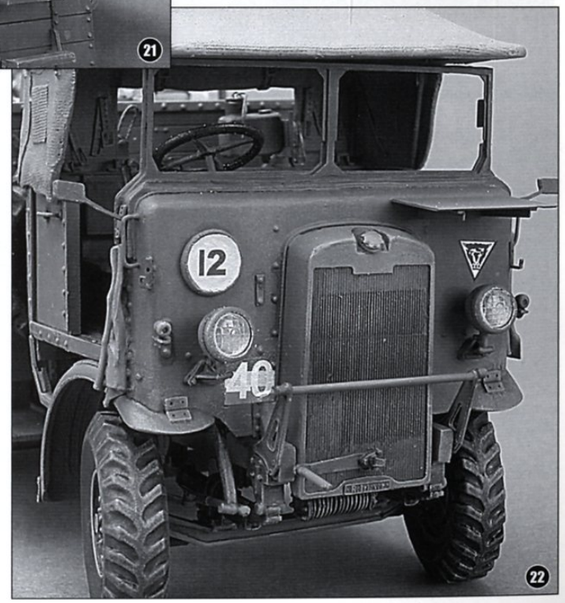
Body side doors

The side doors were double hinged and were capable of being positioned out to act as extra floor space or could be folded down as work benches. Fine chains were used in place of the photo-etched chain provided. Small eye bolts were used to secure them to the doors and side boards. Three brass struts were positioned on each side door and hung down. Small vises were attached to the workbench area. Extra supports were added to the hinge area as insurance against accidental bumps. They did not show, as they were located on the underside. Etched door stops, PP15, were required for all the doors; this included two for the small rear door. Two side door braces (PP8 and 9) below the truck provided support when the doors were folded down. They should be positioned so that they sit behind the doors. During construction they were positioned off of the doors and had to be unglued and moved. This was noticed only after the doors were in position and glued securely. (Murphy's Law No. Eleventeen)

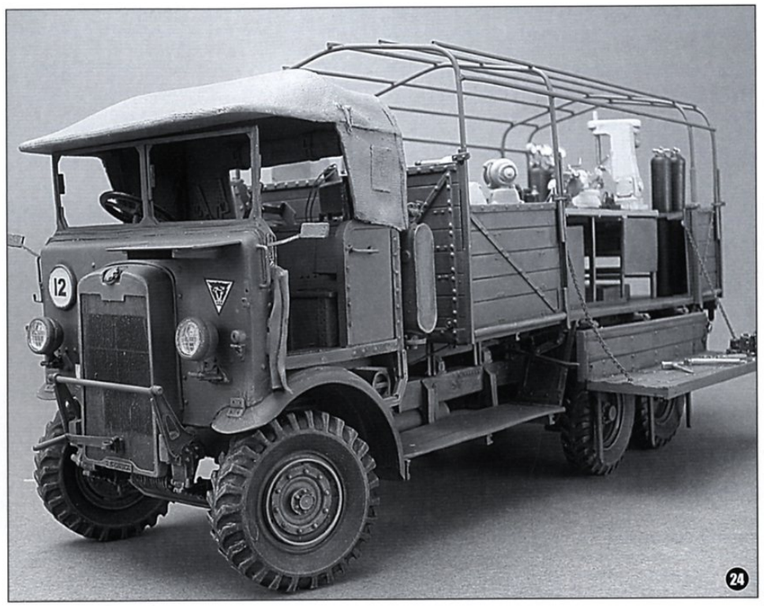
Workshop tools

These parts were extremely well detailed and excellently molded. The only additions necessary were electrical plugs to the outlets and maybe some workshop lights.

The generator was an exquisite little kit by itself, with photo-etched parts for the grilles, mounting brackets, dials and fan blades. It came with parts for the fuel tank, radiator hoses, oil filter,



24. The gas panel and brush guard were formed from photo-etched brass. The canvas top and side doors were painted in a light green canvas color. Side mirrors had Mylar inserts and consisted of two etched parts each. 25. The tilt frame was glued with reinforced super glue, which increases the shear strength and allows a little flex. The frame will therefore accept a few accidental hits before separating.



air filter and exhaust system. Extra wiring and fittings could easily have been added with the correct references and time. Several pictures of a real generator and a kit were provided in the instructions.

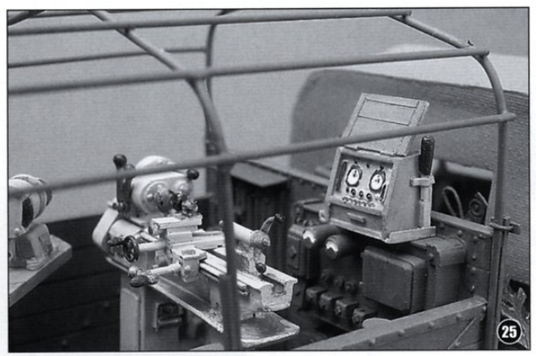
The Atlas lathe consisted of over 15 resin parts and a photo-etched logo. Parts were provided for levers, handles, cross slide, hand wheel, chucks, belt cover and so on.

The drill press was simple to assemble; it contained three parts and required an electrical cable from thin solder. The Black and Decker grinder came with a decal for the logo and was made up of three resin parts.

The work bench was another well designed and detailed item. The top of the bench was resin and brass etching was provided for the legs and drawer slides. The resin drawers were full of tools and equipment and required fine brushes when painting. Tool boxes were well detailed with spanners, hammers, files and a host of other small tools. The drawers were sanded on the sides in some instances in order to slide freely. The castings were very well done and all the detail showed up with careful painting.

The detail on the grinder and valve re-surfacer was awesome, even showing the details for the wire brush bristles.

Footprints or outlines were located on the front inside of the body for the electrical control box, fire extinguisher, battery charging board and switches. These parts required brass etched dials and folding control boxes. Thin solder was used to represent the connections between the Reyrolle switches and the voltage control box. The tuner was painted wood color and the lid was left open to display the details. The welding bottles were added to the back area and the brass straps provided secured them to the body. Two cylinders were displayed stored and the other two had their gauges connected. Solder was used to represent the hoses stored on the tilt frame.



The final items added were the brass plates and wire 'U' bolts used to secure the tilt to the body's channel iron strips. This was done at the end, as any jolts to the tilt would dislodge the plates and they would be lost. Superglue with rubber reinforcement, the black type of glue for radio-control car tires, was used.

Decals

Resicast provided a very nice sheet of decals for the Leyland truck. Choices included the markings for two veteran's vehicles from North Africa and North West Europe, which were shown on the instructions. Decals were printed for the stenciled markings on the back and sides of the vehicle and some text for various tool drawers and boxes. A nice selection was incorporated for the British divisions and the extras help fill up the decal spares box and can be used on other vehicles. The truck represented a workshop vehicle with body type 3 and markings for a Headquarters' REME truck of the 79th Armored Division.

Painting

Humbrol paints were the paints of choice and Numbers 159 and 66 were mixed in a ratio of 8:1. This matches the original SCC 15 Olive Drab very closely and is good for the base coat. A dark wash was applied after a suitable drying time had elapsed and then the truck was dry-brushed with earth oil colors. The tires were painted black and later brushed with pastel chalks

The machinery for the workshop was painted in various shades of gray and blue and small parts were picked out with suitable colors. Switches and gauges were also painted in enamels. A light thin wash was run over the tools to provide contrast. A graphite pencil was rubbed at suitable locations to portray wear and tear. The insides of the drawers were painted wood color and the tools detailed with metallic gray and brown handles. The external surfaces of the tool cabinets were painted in different shades of green. Small hand-tools, oil cans and other items were selected from the parts box and placed on the work benches after painting.

The cab's tarp and canvas side doors were painted with Number 150 and washed with a thinned base coat. Silver was used to paint the insides of the lights before the clear resin lenses were added. Rear lights and other small items were painted the appropriate colors.

Overall, this was another outstanding kit from Resicast. It was extremely well detailed and the machinery tools were small kits by themselves. Clear light lenses, decals and crewman left little or no room for aftermarket parts and made the kit ideal for the diorama builder. Casting was flawless and good quality control ensured a complete kit without missing parts to frustrate a builder. Resicast improves their instructions with each offering and the combination of pictures of parts under construction, vintage vehicle photos and drawings proved ideal. The Resicast kit was a great build and the future Cole's crane version and Monty's caravan should be just as good and as enjoyable to build as this machinery truck was. Need any machinery mended? Lorry, forward march!

—Carlos D'Arcy

MMiR RECCE

Resicast Leyland Retriever Machinery Wagon, 3-Ton 6x4, Type X, R.E.M.E. Kit number 35.162. Kit graciously provided by the manufacturer. Suggested retail price $199.00.

References

Battle Magazine–October 1976
Bellona Military Vehicle Data No. 14 and No. 8, MAP Publications, England, 1972.
Bellona British Army Transport 1939-45 Part 1, MAP Publications, England, 1972.
Data Book Of Wheeled Vehicles, Army Transport 1939-1945, HMSO, UK, 1983, ISBN -0112904084.
Tankette, MAFVA Publication, Vol 14 No. 1.

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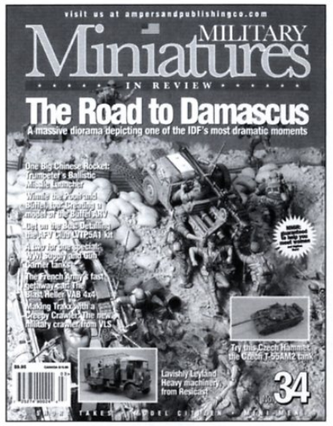

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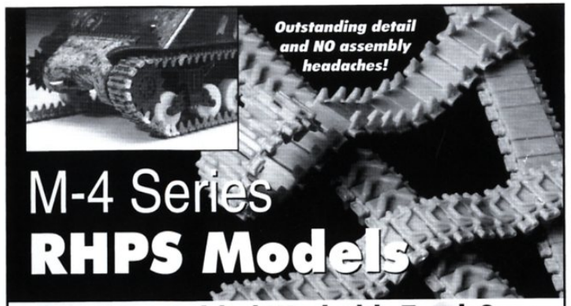

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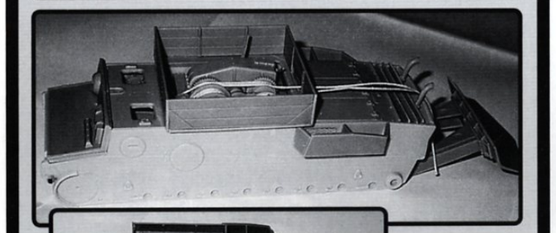

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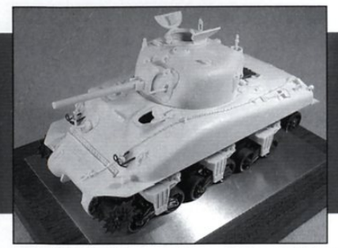

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What is a DF-21 Anyway?

Not surprisingly, there is not a whole lot of information on the DF-21 missile or its launcher, except a few items on the Internet. What is rather funny is the background furnished on the Trumpeter kit box appears to have been lifted verbatim from a web page, which was copied from Jane's Strategic Weapons Systems. If rumors are true, one book put out recently in China on their tank forces was pulled off the shelves and the author is now reportedly serving time in the clink. Anyway, what I have found makes pretty interesting reading but certainly should not be taken as gospel, since there is no way to confirm this information.

The Chinese DF-21 (East Wind-21) intermediate-range ballistic missile, which has the NATO code-name of CSS-5, is a variant of the solid fuel, two-stage CSS-N-3 (JL-1) submarine launched ballistic missile. Actually, there are no known differences between the missiles except their method of launching. The JL-1 started its development in the mid 60's, but the first successful launch did not take place until 1982.

The DF-21 started its development soon after the JL-1 in 1967 and had its first launch in May of 1985. Both the DF-21 and the JL-1 have an estimated 250-Kiloton (KT) warhead with a range of between 600 km and 2,150 km. There are reports that a conventional warhead also was developed and there may be chemical and sub munitions versions, also. The original launch vehicle for the DF-21 was a transporter-erector-launcher (TEL) affair with the missile carried on an open trailer.

The new launcher, the subject of this article, was first seen in the Beijing October 1999 military parade, and the missile it carries is believed to be the DF-21A or CSS-5 Mod 2, which is an improved missile. The DF-21A is reported to have a smaller, but selectable nuclear warhead with options of 20, 90 and 150 kilotons (KT) giving the Chinese more options with which to nuke their neighbors. In addition to the nuclear warhead, the DF-21A is believed to have options available for a unitary high explosive, chemical, sub munitions and an EMP warhead to disable electronic components. The DF-21A is believed to have a range of between 500 km and 2,500 km. An HY-472 or 473 6x6 tractor pulls the launcher. The launcher consists of a trailer and a canister, where the missile is both stored and launched from. The whole canister is raised for firing and there are several large ports to allow access to the missile airframe and warhead. Information obtained in 1996 indicated that DF-21A had improved accuracy, using both GPS and a radar-based terminal guidance system. The missile is a cold launch system, which means the missile is ejected from its canister and the engine then ignites 20 meters above the ground. This saves wear and tear on the canister and the TEL.

The DF-21 began deployment in 1987, with the DF-21A entering service around 1996. Thus far, there are no known exports of the DF-21A, but the Saudis, who bought the CSS-2 DF-3, are considering it as a replacement. Additionally, there are no known foreign sales of the DF-21 and production was stopped in 1988. Reports vary, but it is believed that over 100 of the DF-21/JL-1 missiles were produced.

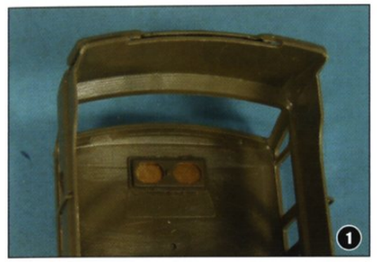
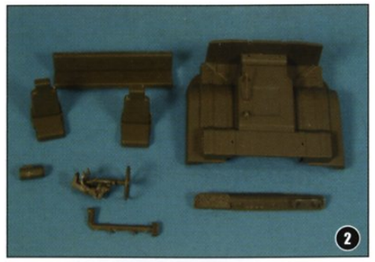
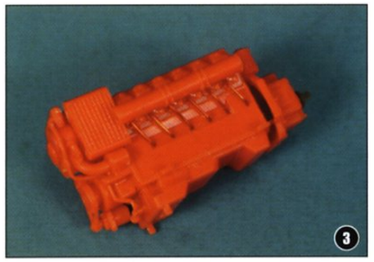
When the DF-21 was first deployed, it was placed in an experimental regiment. It is believed that some DF-21's have been reconfigured with conventional warheads for use along China's southern and northwestern borders. From these locations, the DF-21 can hit its neighbors throughout Northern India, the Republics of Central Asia, most of Vietnam and Southeast Asia. All these missiles are subordinated to the Second Artillery, which is an independent branch of the People's Liberation Army. Premier Zhou Enlai coined the title "Second Artillery" when the Strategic Nuclear Force was established in Beijing on 1 July 1966. The Second Artillery is a large organization and includes 207,000 troops. It has six Ballistic Missile Divisions, plus support units. Each Division has two to three firing Brigades and each Brigade has up to four Launch Battalions. The DF-21's are scattered around the Division's units with the other types of missiles, including DF-3, 4, 5, and 15.

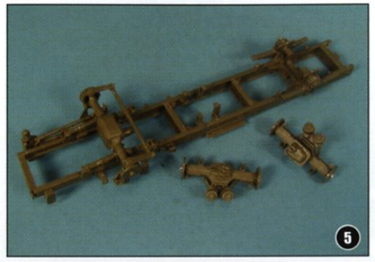
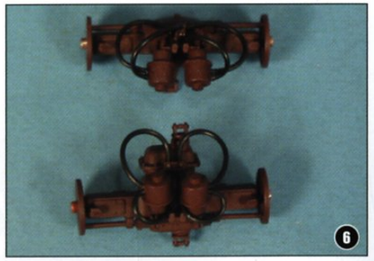
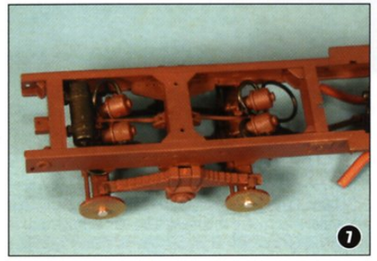
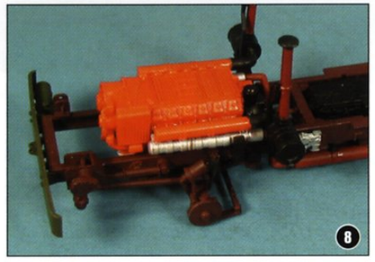
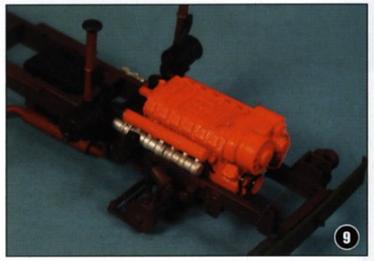
Big box, big kit

Okay, Trumpeter has outdone itself again. This kit is massive to say the least. The box is huge and it is full. I really love the way they pack their stuff. The box is heavy duty and partitioned so the parts are very safe. The kit consists of 12 sprues and all but one is molded in dark green. The kit consists of 757 parts, plus three major pieces not on sprues. The sprue that contains the engine is in bright orange. For the clear plastic parts, there are two sprues with 26 parts, a photo-etch sheet with 19 parts and 24 rubber tires. Additionally, there are five metal axle shafts, wire and rubber hoses. A whopping total of 833 parts, if I counted correctly. The decal sheet includes the instrument panels and markings for the DF-21's that were paraded in the 1999 Beijing parade. The instructions include a 28-page booklet with 28 steps for the tractor, 13 steps for the missile trailer and 6 steps for the canister. As usual, the instructions are excellent and the drawings are great and very useful, even in identifying what subcomponents you are building. Detailed painting instructions are also included in each step, when needed.

Starting at the front

Boy, there is no way I would try to fly solo with this kit, so I followed the instructions pretty closely. I made the decision early to build and paint this as one of the parade vehicles photographed at the 1999 Beijing Military Parade. Also, for the tractor at least, I planned to paint parts as I went along, rather than build everything and then paint the details, which is my usual custom. As mentioned, the instructions are very good at pointing out where different colors are needed, making painting very easy. The cab top is one piece and is carefully wrapped in its own little bag, so it does not get banged around. The only downside I could see was that there is no interior surface detail. The doors are all molded closed and the only extra molding

inside is the raised Trumpeter lettering on the bottom of the roof. This was the first thing I removed. There is a really nice ventilator housing with a photo-etch screen on it that is glued to the outside of the roof.

The rest of the interior is pretty complete, including seats and other components that are very nice. These were cleaned up and glued together in subcomponents to be painted separately. The only real problem with the plastic is that it is a little soft, making clean up a bit more difficult. One odd thing about the kit is that the box art shows the standard DF-21 transporter tractor, which might be the HY-472, but that is not what you get in the kit. There are some subtle differences between the box art and the model, like the front grill. For anyone who is interested, while the cab is essentially the same as the 50-ton tank transporter kit, the front grill is different.

I first painted the interior XF-5, flat green. The seats were painted with red-brown leather Vallejo paint. There are several items that I sprayed Tamiya XF-16 flat aluminum and XF-1 flat black before gluing them into the cab. The kit includes four decals for the dash, which were applied and then given a heavy dose of Solvaset to get them to settle down over the raised dials. I debated whether to remove the raised instrument dials, but the decals fit over them without any difficulty. I then applied a wash of thin black paint to the interior and dry brushed it lightly with white and sap green oils. There is also a clear dome light, which I glued on after painting the rim black. Thanks to a great fit, I was able to leave the top off until after all the painting was completed. That way I could put the clear plastic windows in at the last moment.

The 33-part engine was then assembled without any difficulty. The kit includes copper wire to make wires for the engine, which is a great touch. The wires were cut to the recommended 12mm length and glued in. I left off several larger exhaust manifold parts until after painting. The engine was then sprayed with Model Master international orange, which was the only orange color I had handy. The rest of the parts were sprayed with aluminum and then glued on the engine. I left the engine off until after I had built and painted the frame.

Painting as you go

The three axles were assembled using the metal shaft for each. Some of the supporting arms, C-36, were left off until after the axles were glued to the frame. One of the few mistakes in the instructions was that the main frame sides are A4 and A37, instead of B4 and B47. The frame was then assembled, including all the parts I could find that were going to be the same color. This involved jumping ahead several steps to find everything. I left off all parts possible that were going to be painted other colors. I then sprayed the frame and all the pieces labeled "Coco Brown" (I think I once dated a girl with that same name...) with Tamiya XF-9, hull red, which is a reddish brown color. A really great feature was the kit included hollow soft rubber tubing for the brake hoses. The second minor mistake in the instructions is at Step 17, the rear and center axles are mislabeled. The hoses were cut to the two recommended lengths of 26 and 28mm and glued onto the two rear axles using superglue. I was not sure how well they would hold since the mount points are rather small, but I had no problems with them. They do stick up a little but when you mount the axles they are pushed down and look great. These of course did not get any paint, just some weathering.

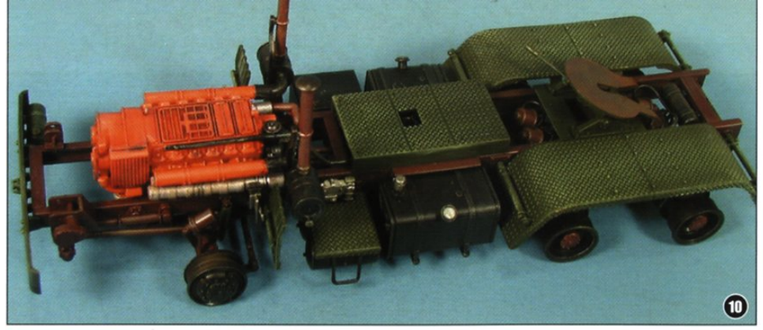
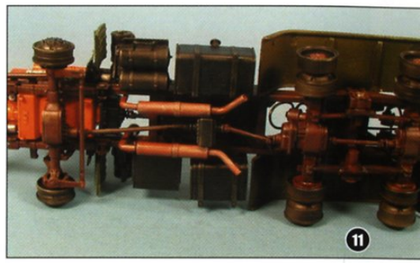
The rear fenders were assembled after clean up. A really nice touch is that the kit provides you photo-etch for the sides of these fenders where they could not cast the grating. The fenders and the cab were then sprayed Tamiya XF-58 olive green. The instructions call for olive drab for the overall outside color. Some of the color photos I found do in fact have it a dark olive drab, but the parade shots (to me at least) look like more of an olive green. This is what I went with, so the choice is really up to you.

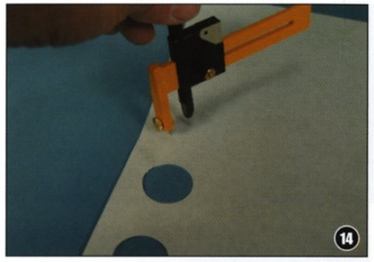
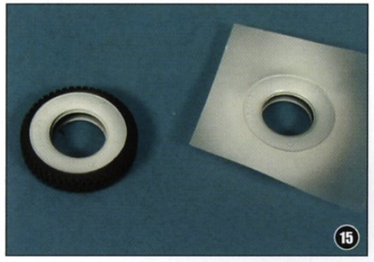
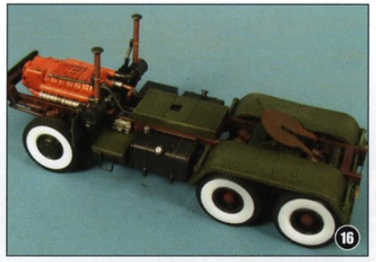
There are two fuel tanks and other cylinders that go around the sides and inside the frame that were all assembled, then painted Tamiya XF-1 flat black.

Now that everything was painted, I assembled the whole tractor except the cab, which I left off until after weathering. The whole thing was sprayed with Polly Scale clear satin and then given a wash of thin black oil paint. I very lightly dry brushed with white and sap green on the green parts and burnt umber and white on the frame and engine area. The exhaust system was heavily dry brushed with a mixture of burnt umber and Rub n' Buff silver.

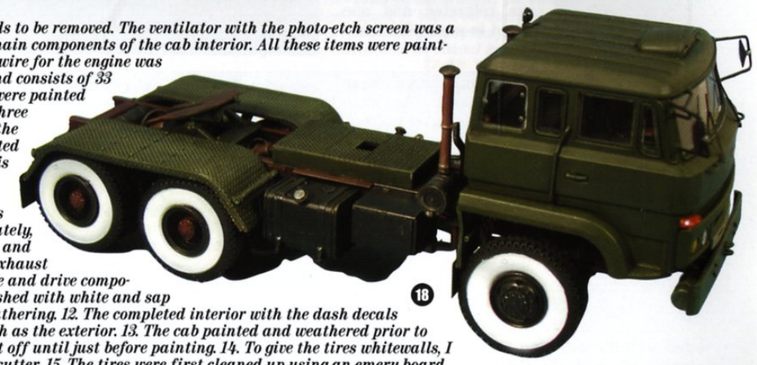
Hot rod white walls

Since I was painting this like the parade vehicle, I wanted to give the tires white walls. The tires are soft, hollow rubber and only have a slight seam that I sanded off using an emory board. They were washed in warm, soapy water and, while drying, I

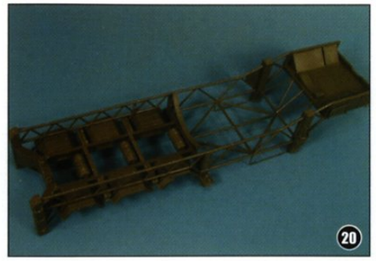




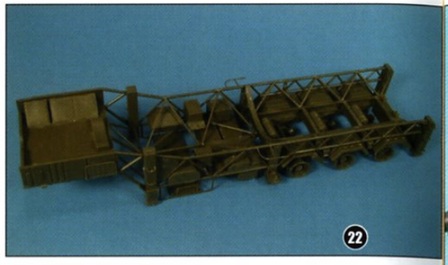
1. There is raised lettering inside the top of the cab that needs to be removed. The ventilator with the photo-etch screen was a nice touch. Notice there is no interior surface detail. 2. The main components of the cab interior. All these items were painted separately before doing the final assembly. 3. The copper wire for the engine was furnished in the kit. The engine is cast in a bright orange and consists of 33 parts. 4. The engine was painted orange and the manifolds were painted aluminum before being assembled. 5. The main frame and three axles assembled and ready for painting. I jumped ahead in the instructions to find all the pieces that were going to be painted in this same brown color. 6. A really great feature of the kit is that it includes the rubber hose for the axles. They were all attached with super glue without any problem. 7. Once installed, the hoses settle down so they are not sticking up as much. 8. All the main components were spray painted separately, then assembled. 9. Here, you can see the details of the engine and exhaust system. The instructions said to paint the vertical exhaust pipes silver, but I chose rust instead. 10. The completed frame and drive components were given a wash of black oil paint and then dry brushed with white and sap green oils. 11. A view of the underside after painting and weathering. 12. The completed interior with the dash decals in place. The interior was given the same wash and dry brush as the exterior. 13. The cab painted and weathered prior to installing all the clear parts. The rear view mirrors were left off until just before painting. 14. To give the tires whitewalls, I first cut out mask using Frisket Film and my Olfa circular cutter. 15. The tires were first cleaned up using an emery board, then washed. The friskets were then put on the tires and sprayed with Tamiya flat white paint. 16. The fit of the tires was very poor. They are too loose, so they keep slipping off when being handled. 17. All the clear pieces are now installed. The turn lights were painted clear orange and the outside lights were painted clear yellow. You get a choice of photo-etch or plastic windshield wipers, but I thought the plastic ones looked fine and were a lot easier to install. 18. The completed tractor ready for the missile trailer. 19. The model offers the option of displaying the cab up in the maintenance mode. Two cylinders are provided to raise it, one retracted and the other extended.

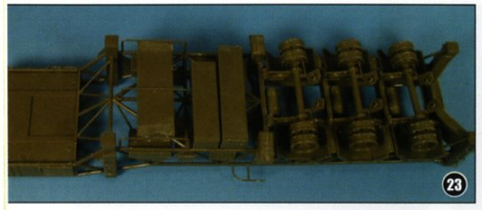


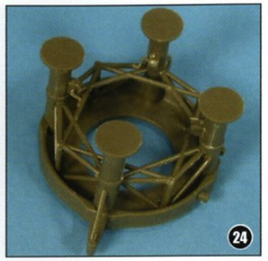
cut masks out of Frisket Film, which you can pick up in any art supply store. The masks were cut out using an Olfa circular cutter, which is perfect for this job. I then stuck the friskets on the tires and sprayed them with Tamiya XF-2 flat white. The only bad news on the tires is that their fit is not great. They are actually too loose.

There are a number of clear parts for lights that need painting. I painted the two front turn signals with Model Master clear orange. The outside headlights were painted with a mix of Tamiya clear gloss and yellow. The rear taillights were painted with clear red, green and yellow. All the insides of the lights were painted silver. The fifth wheel was given a heavy dry brush of black and burnt umber oil paint to simulate the rust and grease. You get a choice of photo-etch or plastic windshield wipers. I painted both before deciding which to use. To me,





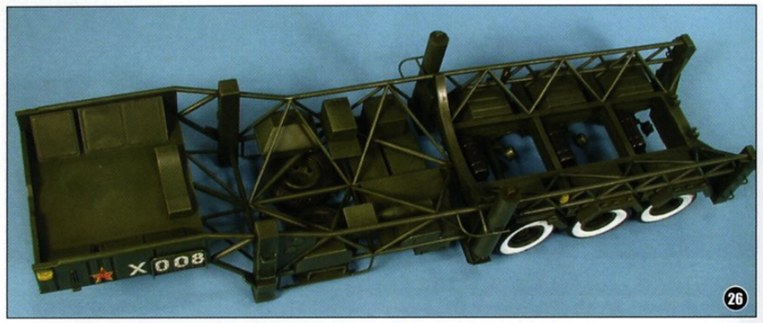




20. The basic trailer was composed of two main sections, the front and rear, which are connected with a lattice-work. 21. The three rear axles all had steel rods in them and the axle was glued around them. 22. The completed trailer ready for painting. 23. A bottom view showing the undercarriage details 24. The missile stand was the most complicated part of the canister base to assemble. 25. The missile canister is a large piece, but assembly was very straightforward. A number of areas needed filling around the access ports. 26. The trailer was painted olive green. The bottles underneath the trailer were painted black, although the instructions fail to mention them. The spare tires were slipped in after painting was complete. 27. The place where the decals go in the parade vehicles is smooth. Not so here.

the plastic ones look thin enough, so I took the easy route and used them rather than try to deal with the photo-etch ones. All the clear plastic parts were then glued in. The only one that did not have a perfect fit was, of course, the windshield.

Last, I added the cab, which mounts on two pins. I left it loose, so I could raise it to show off the engine but not in a permanent display, which could be done if you glued the cylinder in place. You actually do get two cylinders, one retracted and one raised, to accomplish this.



Trailer next

Overall, there were only a very few mold release marks on the tractor parts and most were covered during construction. The trailer is a different story. The problem here was that I was not sure what would show. There also seem to be more and deeper marks when compared to the tractor. It is almost like a different team made the trailer. Actually, after I completed the trailer, the only release marks that were not covered with other parts were on the bottom side of the forward section, which you can only see if you pick it up.

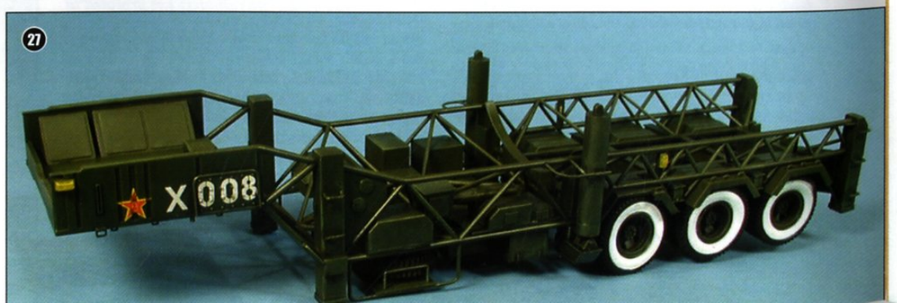
I started by following the instructions and assembling the front pieces. The fit was very good here, with good locking tabs. The next couple of steps have you assemble the main rear section, including the rear fenders. In step 5, the front and main trailer parts were connected with an open frame. Again, the fit was very good and I had no alignment problems, which I was kind of expecting. There are a number of boxes that now need assembly. The fit is good, but the thick plastic leaves some pretty heavy seams. The latticework consists of a number of separate pieces in step 8 that are not difficult to put in, but there are no positive locking points, except on the top run. The instructions are a little vague as to where the pieces attach to the frame.

The axles and tire rims were all assembled next and then the brake reservoirs were glued on. The fit of the rims on the axles is very tight so I did not glue them on. I left the tires off until after painting. There are six leaf springs that were glued on and then the axles were attached. There is a platform for the two spare tires, which I glued on, but left the tires off until after completing the painting. I had no problem getting them in then. Since the trailer and canister are the same colors, I waited to paint it after finishing the canister.

The canister

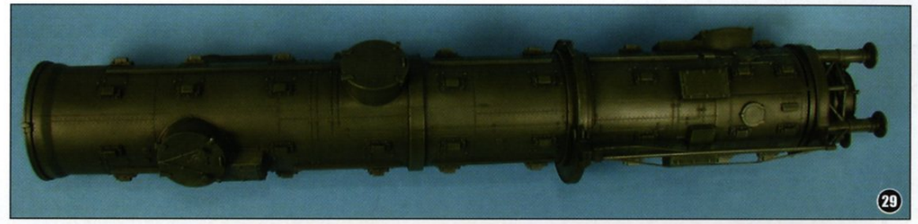
The first couple of steps in building the canister consisted of assembling subcomponents. Then the big guy, the two-piece main canister. The fit of the two canister halves is actually pretty good and the worst and longest seam runs down the bottom, so if you do not elevate it, the seam will be hidden. The top seam runs along some long longitudinal fairings, so most of it cannot be seen either. The bottom stand is the most complicated part and once built, the rest is easy. There are a number of boxes and parts that are glued onto the canister and most are a pretty good fit. The large access panels did not sit as well and a little filling was required.

You get two types of tires for the rear. They are separate in the box but you can easily distinguish them because the tread is different. They were sanded down again, using an emery board.



Painting the launcher

The trailer and the canister were then sprayed with olive green. Although not marked, the canisters below the trailer were painted black, like the ones on the tractor. There are several clear parts that needed clear yellow and clear painted on them. There is a box on the right side that I noticed in the parade photos appeared to have silver caps, so I painted them. The outer tires were painted with white paint using the same method as the tractor. The good news here is that the tires did fit over the rims much better than on the tractor.



The two areas on each side of the trailer to get decals were given a coat of Tamiya clear gloss acrylic. I noticed in the photographs of the parade vehicles that the sides were actually smooth where the markings go. I suspect they put some kind of board over the area to make it a smooth surface. In hindsight, I wish I had noticed that earlier, because it was difficult to get the decals to settle down on the rough surface. I used four coats of Solvaset and carefully blotting with a soft cloth to get them down. Once they were dry, I sprayed both pieces with Polly Scale clear satin. I then gave both the trailer and canister a wash of black oil paint and then a light dry brush of white and sap green oils. For the final assembly, I glued the canister onto the trailer and mounted the wheels.

28. This is one massive model when complete. The box half way down the side appears in the photos to have light color, possibly silver. The rear had some large taillights, which had to be painted clear red and yellow. The tires fit the rear rims much better than on the tractor. 29. The painted canister after a light wash of black oil and a drybrushing with white and sap green oil. 30. This is the first model I can remember painting whitewalls on since I was a kid building car models.

Results

When I first opened the box, I was overpowered not only by the complexity of the kit, but also the completeness. The build was actually much simpler than I expected, thanks to great instructions and well thought out assembly. The only problem I have is where to put it! Once again, Trumpeter has really outdone themselves and created a great model. I am looking forward to building the 50-ton Tank Transporter now.

—Jim Hensley

MMiR RECCE

Trumpeter DF-21 Ballistic Missile Launcher. Kit number 00202. Kit graciously provided by Trumpeter's U.S. importer, Stevens International. Suggested retail price $80.00.

References

Various Internet sites, plus a few I'm not allowed to talk about!

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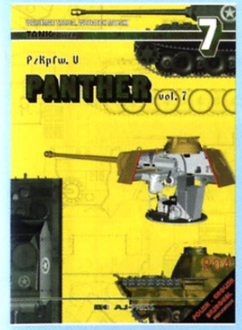

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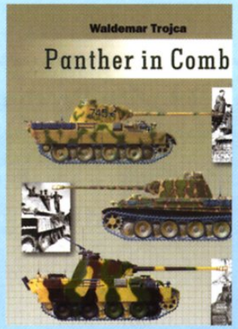

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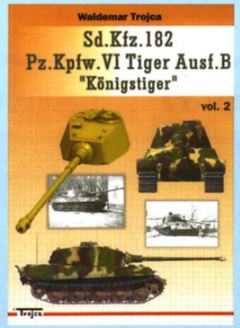

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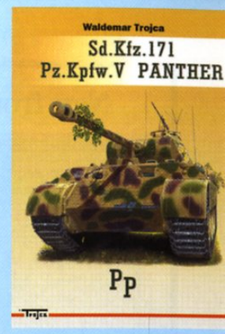

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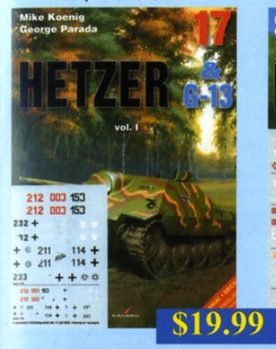

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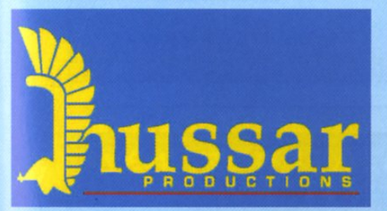

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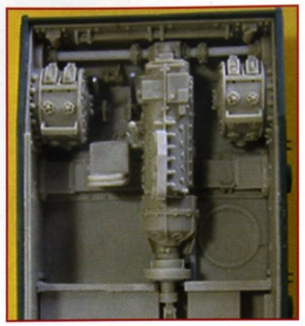

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The 10. Panzer-Division, In Action in the East, West and North Africa 1939-1943 (J. Restayn and N. Moller). Hard cover, large format 9" x 12", 384 pages, 34 pages of color artwork, 450+ mostly unpublished photos of the division's operations in the West, Russia and Africa.

The 10. Panzer-Division was formed in 1939 and took part in the French campaign in 1940, then transferred to Russia for the beginning of Barbarossa. After heavy fighting on the Eastern front the division was shipped to North Africa in late 1942 as part of Hitler's ill-fated attempt to reinforce the Africa Korps and avoid defeat in Africa. This book features both a text history of the division, with many orders of battle, and an excellent photographic record of its campaigns. The superb photos, many of them full page, are from the veterans themselves, private collections and French and German archives. The majority of these photographs have never before been published. This book offers a unique perspective on this often overlooked division. Price $90 (US)/$130 (CDN/INT).

The Combat History of Schwere Panzer-Abteilung 507, In action in the East and West with the Tiger I and Tiger II (edited by Helmut Schneider) Hard cover, large format (9"x12") 223 pages with 11 pages of color illustrations, one page of color photographs and more than 150 additional illustrations and period photographs. Schwere Panzer-Abteilung 507 was formed in late 1943 using cadre provided from Panzer-Regiment 4 of the 13. Panzer-Division. In early 1944, it was sent to the Eastern Front, where it successfully participated in a number of defensive efforts as a mobile "fire brigade." In early 1945, it was sent to Paderborn for reconstitution. There it was being refitted with the Tiger II, when it was hastily attached to SS-Panzer-Brigade "Westfalen" for the defense of the Paderborn area. Equipped with a wide variety of fighting vehicles, including the Jagdpanther and the Jagdtiger, it successfully engaged American forces of the 3rd Armored Division southwest of Paderborn, before it was pulled farther back to the east. Price $60 (US)/$90 (CDN/INT).

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Despite the number of very good books on Kursk that have appeared, few have covered the personal experiences of the troops themselves. Franz Kurowski has interviewed many of the German survivors of Kursk – both commanders and soldiers – and recorded their experiences of the battle. Accordingly, many first-hand accounts of the fighting, most of them published for the first time in English, are included in the text. Price $54 (US)/$75 (CDN/INT).

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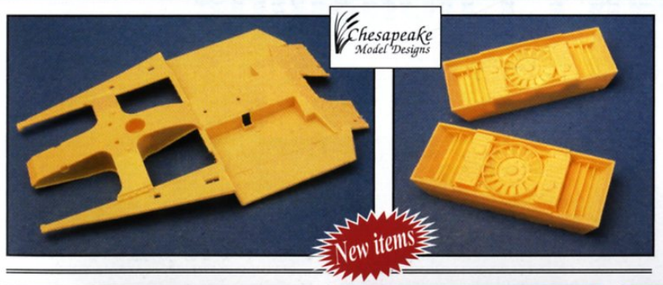

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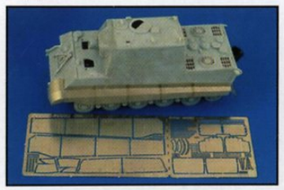

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Hard Trail to Damascus

The subject of this article is a moment from the fifth day of the 1967 Arab Israeli War. Although fighting had been raging all throughout the Sinai Peninsula and the West Bank, to that point, Syria and Israel had yet to clash. Due to constant and relentless shelling of Israeli settlements below the Golan Heights, it was decided that action against Syrian positions there was necessary. The IDF did have a plan in place for attacking Syria called the "Hammer" plan, but due to action elsewhere on the front, the original plan was abandoned in favor of an assault on the extremely high and rocky terrain between the fortresses of Darbashiya and Jalabina. For those of you who are not familiar with these locations, this is about half way between Lebanon and the Sea of Galilee on the border between Israel and Syria.

This area rises to a height of nearly 2,000 feet and is devoid of any major vegetation. Syrian forces were entrenched along the top of the heights and in depth behind them. Patrol roads linked the various larger fortifications and the areas in between were laced with smaller trenches, mine fields, bunkers and pillboxes.

The original plan called for a night attack, but circumstances forced the IDF to conduct the assault in daylight. The only hope of success was the use of speed and surprise to capture the patrol roads and invest the trenches and bunkers from behind. Many of the IDF soldiers felt the attack was near suicide. The following is a brief excerpt from Michael Oren's "Six Days of War, June 1967 and the Making of the Modern Middle East: " *"At first, we weren't afraid at all," said Ya'akov Horesh, member of a tank crew in the 8th Brigade's 129th Battalion. "Bulldozers ran in front of us, clearing the wire and mines. But then the sky opened up. The bulldozers were knocked out... half-tracks were blown into the air. Suddenly, we were hit! I went up to the turret hatch and saw that the tank was ablaze and that I was burning with it. I heard shots, heard someone on the radio calling for air cover. I decided it was better to be shot than burned to death, and I threw myself from the turret... They [Israeli soldiers] picked me up and put me on the deck of another tank. I was still on fire."* "

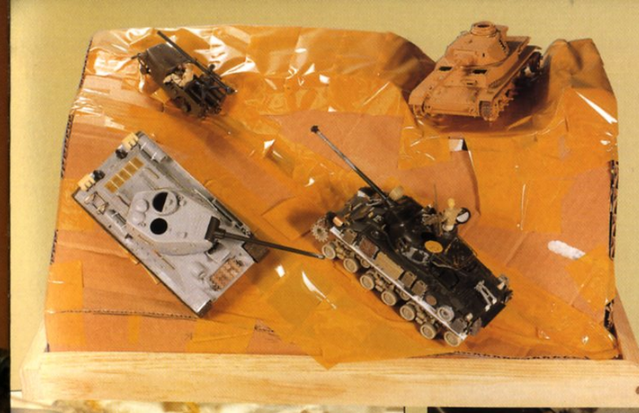
Although the IDF eventually achieved most of their objectives, they never penetrated more than eight miles into Syria and the cost of the attacks was very high in both lives and material. However, the impact on the Syrians was immense and caused wide ranging politic waves in the region.

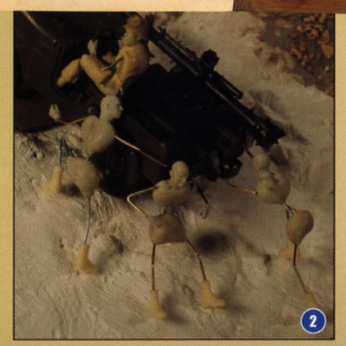
I have had people ask me "why make Arab-Israel conflict dioramas?" My answer is always simple. There are too many people making WW2 German ones! At least one person has to make something different! I don't really like the fact that almost every military vehicle diorama builder uses WW2 as his theme. Even excluding WW2, you easily can find plenty of events and wars that changed history and every one of them is valuable enough for modelers to be interested in. I've had a deep interest in Middle East history for many years and have poured a lot of effort into making dioramas about that subject. Creating dioramas is my favorite method of expressing myself as a modeler.

This diorama is my most recent work on the subject. My original concept was simple: two old WW2 veterans, a Syrian PzKpfw IV and an Israeli M4 Sherman re-encounter one another during the 1967 6-Day War. This meeting is only possible in a few instances and the Golan fighting is one of those. Heavily modified Israeli Shermans served in their 8th Armored Brigade, one of the assaulting units in the Golan that day. Opposing them were the reservists of Syria's 244th Battalion, who were manning Panzer IVs in fixed positions on the heights.

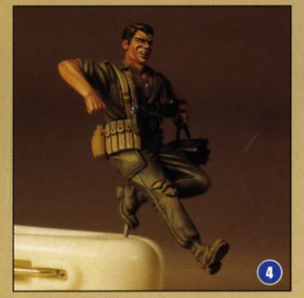
At this point, I will continue my description in the captions.

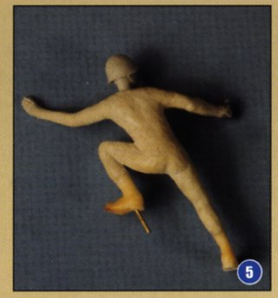
—Douglas Lee

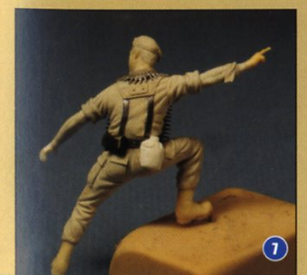


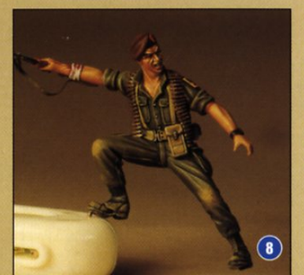


When you try to make a base with a complex layout and contour, you can easily find a big gap between what you intended and the actual outcome. If you want to narrow that gap, it's better to make a rough mock-up with cartons and packing tape. As one can see in the shot at the upper left, one good thing that comes from using a sloped base is that it gives the best animation to the vehicles on it. It really looks like the tank is climbing up. However, during the construction of over 20 figures, I had to change my mind about the overall design. All of those figures in their dramatic poses were so strong an element that the two tanks degraded their position in the diorama (a T34 was also part of the original design). I decided to change the final design and the result is seen at the upper left. The basic cliffs were formed and carved from plaster, while various natural materials were used to create the rocky terrain. The sandbags were all created individually from sculpting material (photo 1). It's very difficult to find stock commercial Israeli army figures and also very hard to find ones with acceptable poses. Another important reason to sculpt your own figures is that commercial stock figures usually have very poor animation. I wanted to create more dynamic and realistic poses and I hope that you will judge whether or not my effort was successful. Most of the figures were created with wire armatures attached to basic chest and pelvic elements (photo 2). Most also use Hornet heads and Historex resin hands. Once the basic pose has been determined, the form of the figure is created with sculpting material (photos 3-6). Then, the various uniform and equipment elements were added using sculpting material and a variety of other materials such as lead foil and items from my spare parts box. Painting on all of the figures was accomplished with oils (photos 7-12). A total of 23 figures were created for this diorama.

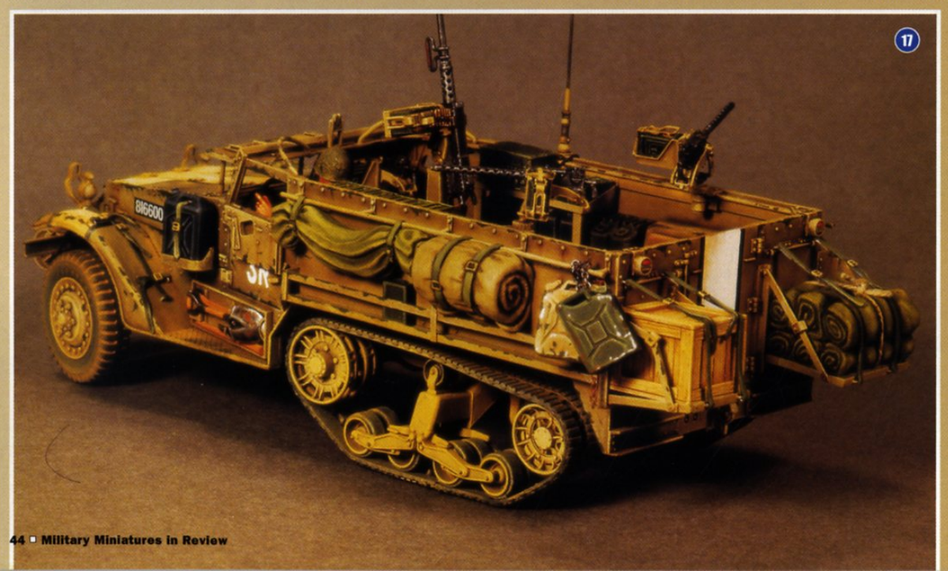


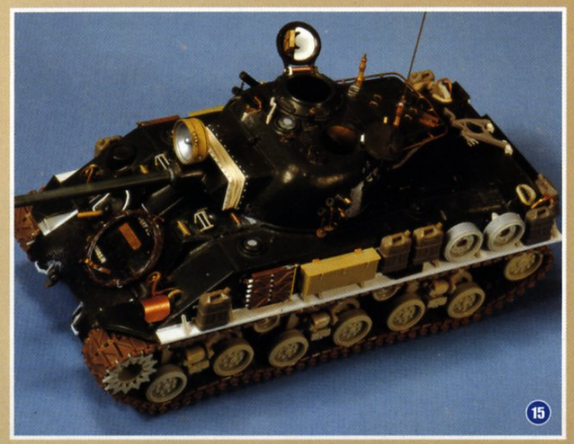






The Syrian army bought several PzKpfw IV tanks from Czechoslovakia and used them mostly for fixed defense. Photo 13 shows the unpainted PzKpfw IV model. Basically, I used the Tamiya kit, but had to do some converting and scratch building. A DSHKA 12.7mm machine gun was added along with a new cupola hatch. The storage boxes on the fenders are distinctive and all of them were created with Evergreen plastic card. I also used some Aber etched parts, such as the turret armor plate and fenders. These best express dents and twisted thin steel plates. Photo 14 shows the PzKpfw IV after painting. Photos 15 and 16 show the M50 Super Sherman before and after painting. It is basically the old MP Model kit, but less then 50% of the original parts were used. The suspension is from Dragon "Easy-Eight," while the tracks are from AFV Club. Many, many other manufacturer's parts were used for super detailing and these include some from the Dragon M51, as well as various brass and plastic scratch built parts. The suspension was modified to conform to the irregularity of the terrain on the diorama base. Photo 17. The Israeli M3 half-track is essentially the Tamiya kit modified and detailed with various parts. Basically, the Israeli M3's were not that different from U.S. ones, but an IDF model will still need many additions. A full complement of machine guns was added, including a .50 caliber and two .30 calibers, as well as ammunition boxes. A radio set and a large amount of external equipment was also added.





Skybow's M38A1 jeep doesn't need much detailing or modification. I added radiator-grill mesh (which is typical for Israeli soft skinned vehicles) and replaced the side mirror arm (which can easily be broken) with brass rod. The Jerry can was also replaced with an Israeli type (photo 18). Photo 19 is a close-up of the suspension of the M50. This shows how making the suspension conform to the terrain of your diorama enhances its realism. The finish of the tank shows a large amount of wear and tear. The 8th Armored Brigade's Shermans had already seen heavy fighting in the Sinai Peninsula in the first days of the war. A closer look at the Syrian PzKpfw IV is seen in photo 20. Since it was stationed on the dry, dusty Golan Heights, its color would be pretty badly deteriorated by sunlight and heavily covered with dust. I used powdered pigments to make the dust. The spent shell casings from the DSHKA 12.7mm machine gun were made from brass stock. The circular marking on the turret is a Syrian air recognition symbol. All markings and Arabic letters were hand painted.

Another advantage of a large diorama is that many photos can be taken of it without revealing anything else beside the diorama itself. These two photos showcase some of the drama around the halftrack and the M50 Sherman. Markings on both were also hand painted. Note the barbed wire and the barbed wire stanchions in both of the photos.

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References

Although there are many good references on the conflict, these are two that can get you started.

Six Days of War, June 1967 and the Making of the Modern Middle East by Michael Oren, Oxford University Press, 2002. ISBN: 0-19-515174-7. Not a photo book, this is a very good title about the basic history of the Six-Day War.

Tank Battles Of The Mid East Wars: (1) The Wars of 1948-1964, Armor At War Series, 7008, Concord Publications Company by Steven J Zaloga. ISBN: 962 361 612 0. *Tank Battles Of The Mid East Wars: (2) The Wars of 1973 to the Present*, Armor At War Series 7009, Concord Publications Company by Steven J. Zaloga. ISBN 962 361 613 9. Two excellent photo titles containing many high quality images.

Douglas Lee was born in Korea in the aftermath of the Korean War; he still has a memory of playing on a destroyed T-34 tank. He was the publisher of the first Korean scale model magazine "Hobbist" from 1990 to 2000. Douglas' work has received some of the hobby's highest accolades, such as Gold Medals and a Best of Show at Euro Militaire and the Chicago MMSI Show (Hard Trail to Damascus was a Gold Medal winner at the 2002 Euro Militaire Show). Douglas now creates master patterns of both figures and armor for various manufacturers around the world.

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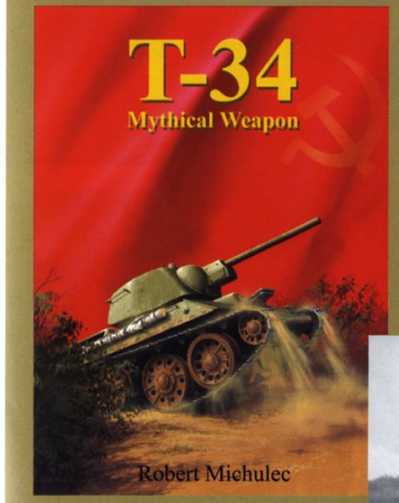

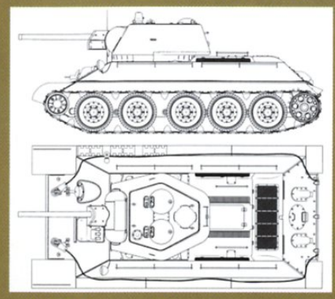

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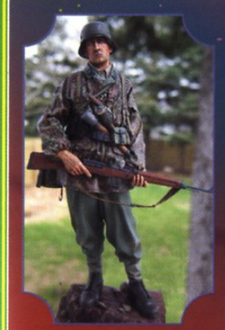

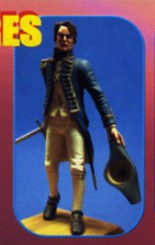

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Winnie the Pooh and Büffel, too

Creating a model of the Büffel ARV

When the new German Army upgraded to the Leopard 2 it was decided that they also needed a new Armored Recovery Vehicle (ARV) big enough to pull it around and fix it. Development work started in the 1980's and by 1986 Krup MaK Maschinenbau GmbH or just MaK had developed a prototype. This initial work apparently paid off, because in August 1990 the Federal Office of Military Technology and Procurement (BWB) announced that the main contractor for series production of the Büffel Armored Recovery Vehicle ARV would be MaK, although Krauss-Maffei also produced a few.

The official designation of this vehicle is Bergepanzer 3 Büffel (Buffalo) or known simply as the Büffel. It was designed, like other ARV's, to be employed for various recovery, maintenance and repair roles and, of course, it is based on the automotive components of the Leopard 2.

To carry out its recovery role, the Büffel ARV is fitted with a hydraulic crane that is pivoted at the front of the hull on the right side, along with a winch, dozer/stabilizing blade and other specialized equipment. For local defense, an MG3 7.62mm air defense machine gun is mounted on the commander's cupola and there are eight smoke grenade launchers on the front and another eight on the rear of the vehicle.

Originally, one hundred Büffel ARV's were ordered, 75 for the German Army and 25 for the army of the Netherlands. The first production vehicles were completed late in 1991 and production ran until 1997. Of the 100 original vehicles, 55 were built by MaK and 45 were built by Krauss-Maffei.

According to a Jane's Defense Upgrades announcement dated 30 January 2002, a decision was made to start production of the Büffel again at Germany's Rheinmetall Landsysteme. The reason for the restart of production is to furnish the Büffel for the export market.

The Büffel's tale

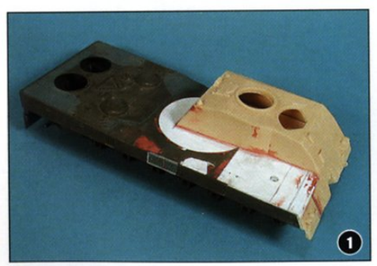
This is my first kit to build from the German Company Elite. It is a very complete kit of the German Army Büffel ARV, although I'm sure it could be converted to the Netherlands version without much trouble. This project has a rather interesting little story to it. Originally, this vehicle was to be my contribution to the Modeler's Guide to Engineering and Recovery Vehicles. A sample of the kit had been graciously donated to that project by Elite, but somewhere between the UK (where it was picked up) and the U.S.; the original kit got smashed—pretty much to bits.

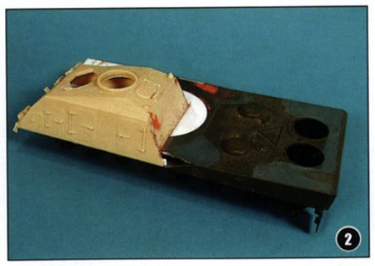
Elite was gracious to allow me to purchase a second kit at a substantial discount, but guess what? Yep, it suffered much the same fate on its transcontinental journey. Well, all this tomfoolery pretty much sealed its fate as far as the book went, but I still hoped to get to it as a feature one day.

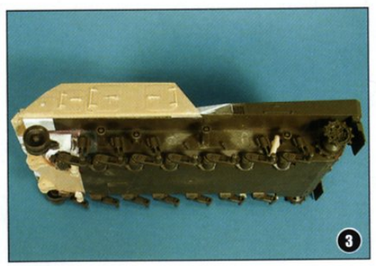
Then, something wonderful happened. Tamiya, purely by chance it seemed, released a spanking new kit of the Leopard 2! "Hey, I can just do it as a conversion. It'll be easy, right?" All that yummy lower hull and suspension detail mixed with the original Elite parts. Cool!

Well, it sounded like a great idea, but it wasn't so easy after all. Let's look at the players.

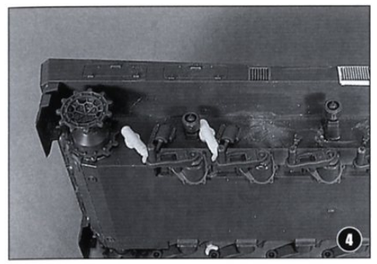
The basic Elite kit has approximately 260 parts cast in a cream colored resin and a few small tools cast in white metal. The kit includes resin track length and link but no decals.

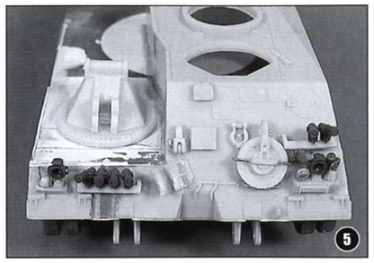


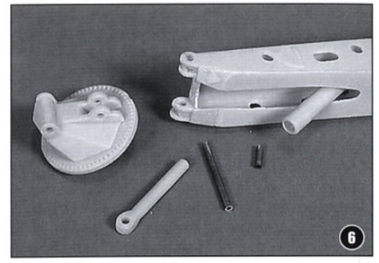


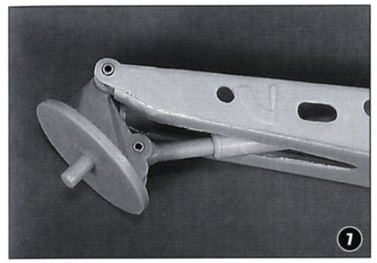


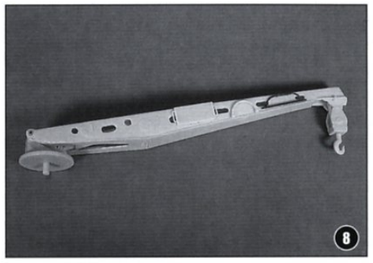
1. The basic chassis after mounting the superstructure onto the Tamiya Leopard body. There is still a lot of work left since much of the surface detail also has yet to be transferred. 2. The notch in the side is that very tricky angled area. The rear deck is similar to the Leopard, but there are a few significant differences. 3. Two of the return rollers were moved to new locations. You can see where the old ones were. There is also an extra shock absorber on the rear axle for dealing with all that extra weight. This view also shows the styrene work on the front idler area.

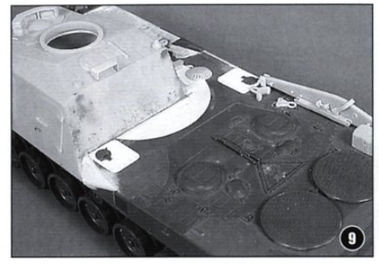


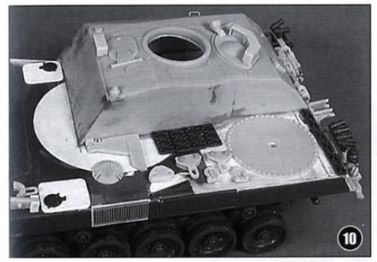


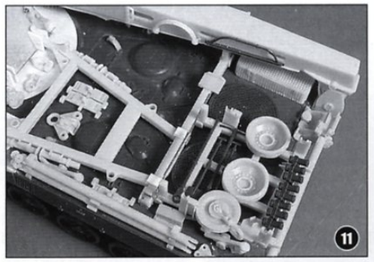


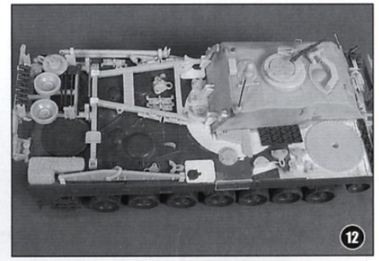












4. The right side is similar, except there are two extra supports on it. 5. Where possible, I substituted Tamiya parts, such as the headlights and smoke grenade launchers. The horn is from my spares box. 6. The crane before assembling the mount. The hollow elevation cylinder needs to be mounted in the crane before the bottom is glued on. 7. The mount is now assembled. You will need to do a lot of trimming here to get the jib to sit horizontally. 8. The jib crane is now complete. The hook assembly was mounted using tow cable thread from the Tamiya kit. 9. The details on the rear are now being mounted. The assembly on the right side of the vehicle is part of the crane for picking up engine packs. 10. The details of the area on the right side are a combination of parts removed from the original casting and others from the Tamiya kit. 11. These parts took the majority of the time, both figuring out and scratch building. The tools that come with the kit are cast in soft white metal, so I substituted the Tamiya tools here, as well. 12. A stripped down view of the completed chassis. This is how it was painted.

The instructions come in a booklet, which includes step-by-step notes, but I wouldn't call them real instructions. Most of the diagrams are drawings of the vehicle with arrows and numbers pointing to where things should go. To add to the difficulty, the instructions are 100% German.

Overall the quality of the some of the castings is not great, which made construction difficult. Many of the resin parts were not completely poured, plus numerous air bubbles were present.

Apparently this kit has gone through several improvements or at least changes. The result is several of the parts have been combined into single castings, but the instructions have not been updated. Consequently, I spent a lot of time looking for parts that didn't exist. There are drawings of all the pieces, which for the most part did help, although again some pieces really didn't look like their drawings. On the positive side, there is a very nice set of line drawings of the vehicle with the proper camouflage pattern and markings illustrated.

Reference is very sparse on this guy, but I was very fortunate to have a series of photos taken of a German Büffel. Additionally, the instructions mention an old Ground Power book on the German Army that includes a couple of very valuable photos of the rear deck with the crane raised, exposing details underneath. The Internet failed to provide any real useful information on this big guy, which is rather rare for a current vehicle.

Combining kits

The kit was started by modifying the hull top with the removal of the forward driver's area and filling in the turret opening and forward hull with sheet styrene. Many of the molded on details on the rear deck were carefully removed and the areas sanded smooth.

There was actually a considerable amount of sanding on the deck. Getting all the various materials to line up and sit flush was an arduous task to say the least. My plan was to graft the entire forward hull and upper superstructure of the resin kit onto the plastic carcass. However, I believe the Elite kit is based on the Italeri Leopard 2 and it is dimensionally different from the presumably more accurate Tamiya kit. This was especially tricky around the lower front hull. A substantial amount of shimming and sanding was necessary to get this area even with the Tamiya kit. I was eventually satisfied, and the Tamiya idler arms and wheels were added.

Another tricky area was the front hull panel on the right side of the raised superstructure. I cut and shimmed this area two or three times in order to get it flush with the sides of the Tamiya kit.

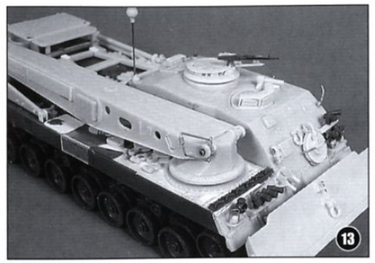
There is a prominent vent on the right side of the hull on the Büffel. I carefully cut down a section of grating from a model railroad part and spliced it into place.

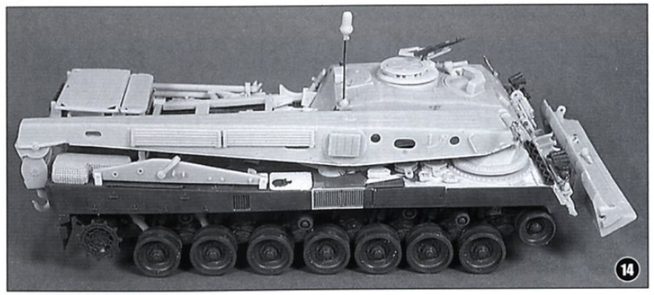
The final area to deal with was the ultra complicated angled area at the left rear of the raised superstructure. This crazy area is slanted in three different directions. As I was cutting and prepping the hull, I just took a guess at the shape. Once all the other areas of the hull were complete, I blocked it in with styrene and putty and it didn't look too bad. Just don't sick the calipers on me!

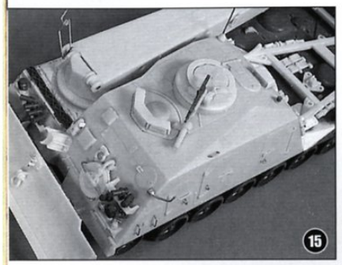
All in all, the upper hull work turned out well. Much of the added equipment hides the upper hull, so perhaps I went a little overboard.

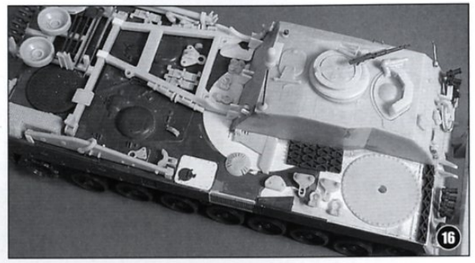
On and on

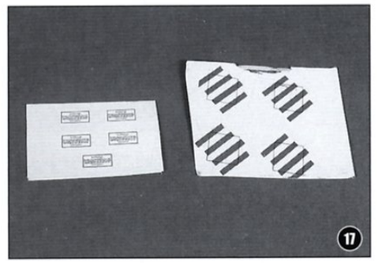
The suspension was next. The return rollers and several other small items on the hull sides needed to be corrected, since they are not the same as those on the Leopard 2 MBT. Now for those who are not as

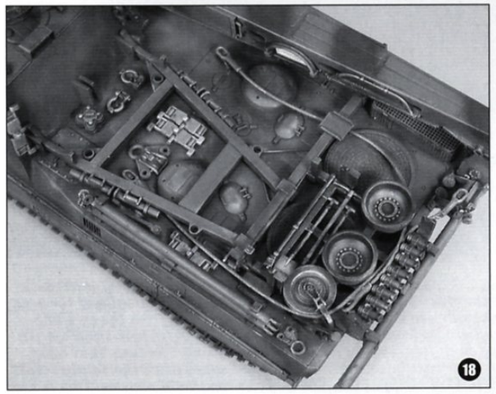












13. The dozer blade was not too difficult to get on. Notice the rather complex side view mirror arm on the jib crane. 14. A side view of the complete model before painting started. The warning light was mounted on an extended shaft, so I chose to have it elevated. 15. Another view of the completed front end, including the arm for the side mirror. 16. The details on the top deck can be seen here. 17. The kit lacked any decals, so I made my own using an inkjet printer and Micro-Mark white decal paper. 18. The rear deck before the covers were added showing the layout of the tools and tow cables. 19. A view of the rear showing the red and white stripe signs, which were custom made decals. 20. The large emergency light was first painted with silver, then Tamiya clear orange. Here you can see the two rear panel covers on the rear and the other storage on the rear deck. 21. The skirts were added after the track and road-wheels were painted. The skirts, unfortunately, are not straight across the top. They have a slight bow in the center, which had to be filled. 22. The headlights were filled with MV lenses and the small emergency lights came from a ROCO set. Except for homemade decals, the rest came from the Tamiya kit, plus a few others from TL-Decals. The figure comes from the Tamiya kit of the Leopard2A5.

anal as I am, you can skip ahead since the side skirts cover the rollers. Because of the heavy loads the Büffel deals with, two of the rollers have to be moved and extra shocks from the Elite kit added to both sides.

I used the kit's tracks, of course, but I had to shorten them two links, since they were very loose. This is the same problem inherent in the MBT kit. The side skirts for the Büffel are more like the older Leopard 1 type, so I used the resin ones here. These looked awfully familiar and I believe plastic versions can be found in one of the older Italeri Leopard kits.

Since I don't like to paint with the tracks mounted when I can avoid it, I left the wheels and side skirts off until the painting phase started.

Adding details such as cranes and blades

I then started to add the detail to the front by first replacing all the smoke grenade launchers with ones from the Tamiya kit. I also replaced the headlights and added a horn, which I found in my spares box.

As planned, various parts from the upper deck of the resin hull were removed and using wet and dry sandpaper, sanded down so I could glue them to the new hull top. The largest of these parts was the crane base. I guess I could have scratchbuilt this, but the many rivets around its circumference looked like a bear to replicate. The area was in pretty good shape, too.

I had decided early on to have my crane in the travel position, so all the crane parts were assembled and glued onto the hull. I then began to add the various parts on the rear. This actually took the majority of the time because of poor instructions. The problem is that in several key areas, the arrows showing where items go cannot be seen. The instructions appear to have been photocopied several times, losing information like the arrows. Thanks to my reference photos, I was able to figure out where most of the pieces went. Some I just kind of guessed at, when all else failed.

I made the two hatches just behind the main cab area out of thin sheet styrene and bolts made with a Historex punch and die set. The fuel filler caps were cut from the Tamiya kit and sanded down and glued to the top of these hatches.

Wire is provided for all the handles and the instructions give measurements for all of them, which is nifty. The covered assembly on the rear of the chassis was particularly difficult to figure out because two sheet metal covers go over it and, consequently, cover all the details in the reference photos. To make sure everything on the rear fit properly, I first glued on the metal "A" frame, then attached this rear assembly to it.

Another problem created by not using the resin hull is that the location points, holes and mounting brackets are not present. In some cases I could remove the items from the resin hull and glue them to the plastic hull and in other cases they were broken off and missing, so I had to scratch build them. I'm still thinking Samsonite for next time...

Whooping crane

I assembled the crane next. The instructions are a little vague here, but you should first attach the short hollow tube, #62, in the interior before adding the bottom piece. I used hollow brass tubing for the mounting pieces. I substituted the Tamiya tools here, as I had on the rear deck. They are just too pretty to pass up.

The hook assembly for the cane was attached using the tow cable string provided in the Tamiya kit. No cable is provided in the resin kit. I had to do some cutting of the underside of the forward section of the crane to get it to sit flat.

The dozer blade was next and it also took some work to figure out. It turned out the one piece I was looking for, #102, was actually already cast on the blade. Boy, did I feel dumb when I finally happened to look at the blade. Also parts 103 look nothing like the drawings and I had almost given up on them until I finally noticed them in one of my reference photos. The photo showed these cylinders to be square and much simpler than the drawing.

The two rear view mirror mounts, which are made out of soft white metal, were glued on, but I left the mirrors off until after painting. I used the tow cable supplied in the Elite kit, but used ends from a Hudson & Allen set. The kit ones were too small for the cables.

Doing the NATO Three Color

I washed everything with warm soapy water to remove the mold release from the resin parts and take care of any remaining sanding dust. I first sprayed the whole vehicle with Tamiya flat black as a primer and then checked for flaws. The Tamiya Leopard kit recommends Tamiya NATO paints, but my local hobby store hadn't stocked them yet, so I had to use Polly Scale paints instead. I'm not a huge fan of Polly Scale paints. I find that while they spray okay, they don't cover very well when hand painting. For me, anyway.

I then sprayed the entire model with Polly Scale NATO black. The road wheels were masked and sprayed with Polly Scale NATO green along with the underside of the vehicle, including the dozer blade. The tracks were sprayed with Polly Scale panzer red brown and then the pads were wiped off before the paint dried. I then put the road wheels and track on. The side skirts were then glued on. The skirts were a little difficult to get on since they are not straight along the top. They dip a little in the center, which forced me to fill the gap in with Zap a Gap super glue. I then sprayed the remainder of the camouflage pattern using the NATO green and NATO brown. The tools, spare track and other small items were painted with Vallejo paints.

I decided to assign this big guy to Germany's 33rd Panzer Battalion, since I had decals for this battalion. I used some decals from the Tamiya Leopard 2A5 kit and others from a German company called TL-Decals. They produce a decent series of decals for German Army vehicles. The Elite instructions actually suggest cutting out some of their markings from the instructions. Since I was not about to do this, I made my own using my inkjet printer and Corel draw. This included the angle markings on the crane. I always put clear gloss on the areas for the decals, since they don't stick very well without it. I also made the two rear red and white-stripped reflector panels out of decals and put these on thin sheet styrene.

I then sprayed the entire vehicle with Polly Scale clear flat. A two-step wash was then applied, starting with a very thin black oil paint. This was followed up with a spot wash of black/burnt umber oil paint. I didn't get any of this on the rubber band tracks, since they tend to melt. Instead, I gave the suspension a wash of acrylic black paint. The vehicle was lightly dry brushed using a combination of white, sap green and burnt umber oils.

To finish up the detail, I put clear MV lens #L136 in the headlights and ROCO 1/87th scale emergency lights on the front (hey, it works). For the big emergency light on top, I first painted it silver, then Tamiya clear orange.

I decided to add the tanker figure from the Leopard 2A5 kit just to give the vehicle some perspective. I assembled him out of the box and painted him using a combination of oils and Vallejo paints.

The final results

This was one challenging project. While the decision to use the Tamiya Leopard hull made sense in the beginning, I kind of wished I had left the hull alone and just used the suspension and other accessories from the Tamiya. To be fair to Elite, much of the damage and breakage was due to my poor handling. Even so, the overall quality of the casting was not that great. I spent a lot of time filling bubble holes and making other small repairs. Of course, the real cause of all this was the continued temptation to work with the terrific Tamiya Leopard 2A5 kit. All of that said, I think it turned out to be an excellent model, even if it needed a little extra TLC.

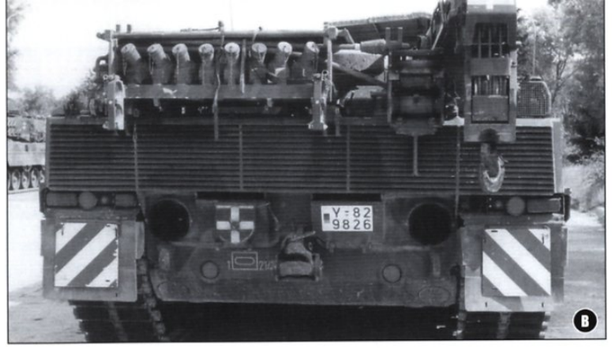
—Ken Dugan

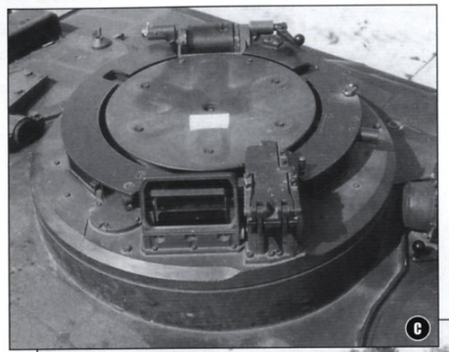
MMiR RECCE

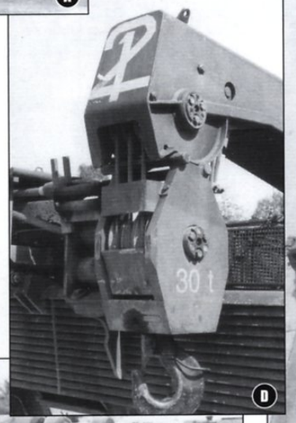
Elite Models Büffel ARV. Kit number 3517. Suggested retail price $110.00.
Tamiya Leopard 2A5. Kit number 35242. Suggested retail price $43.96.

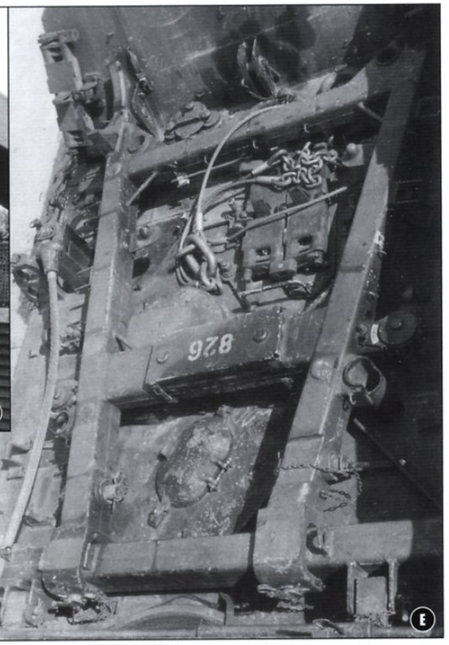
References

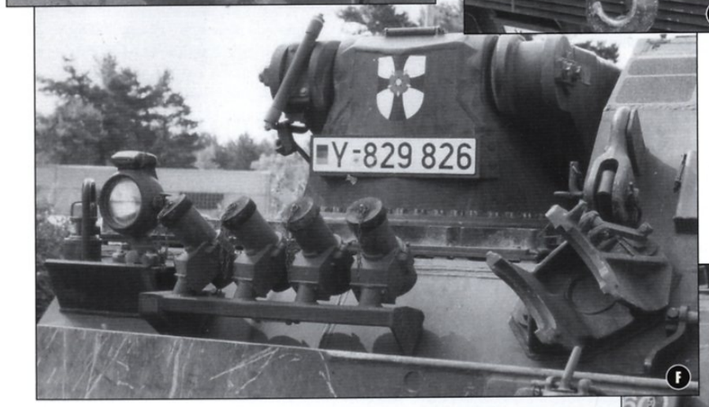
German Army '94, Ground Power No. 5, October 1994, Delta Publishing Co., Ltd. Tokyo, Japan.
This book, although old, has some very valuable photos of the rear deck.

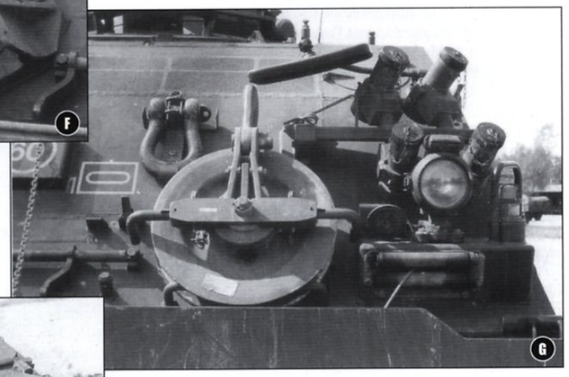


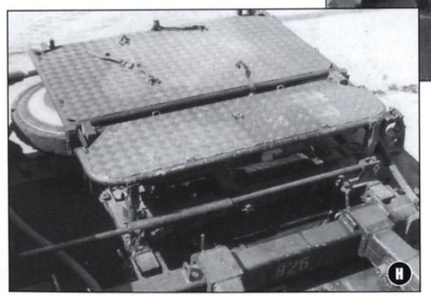


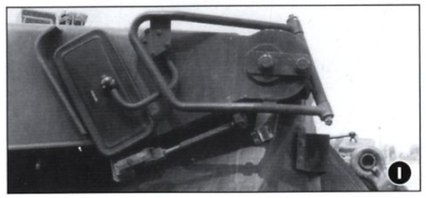










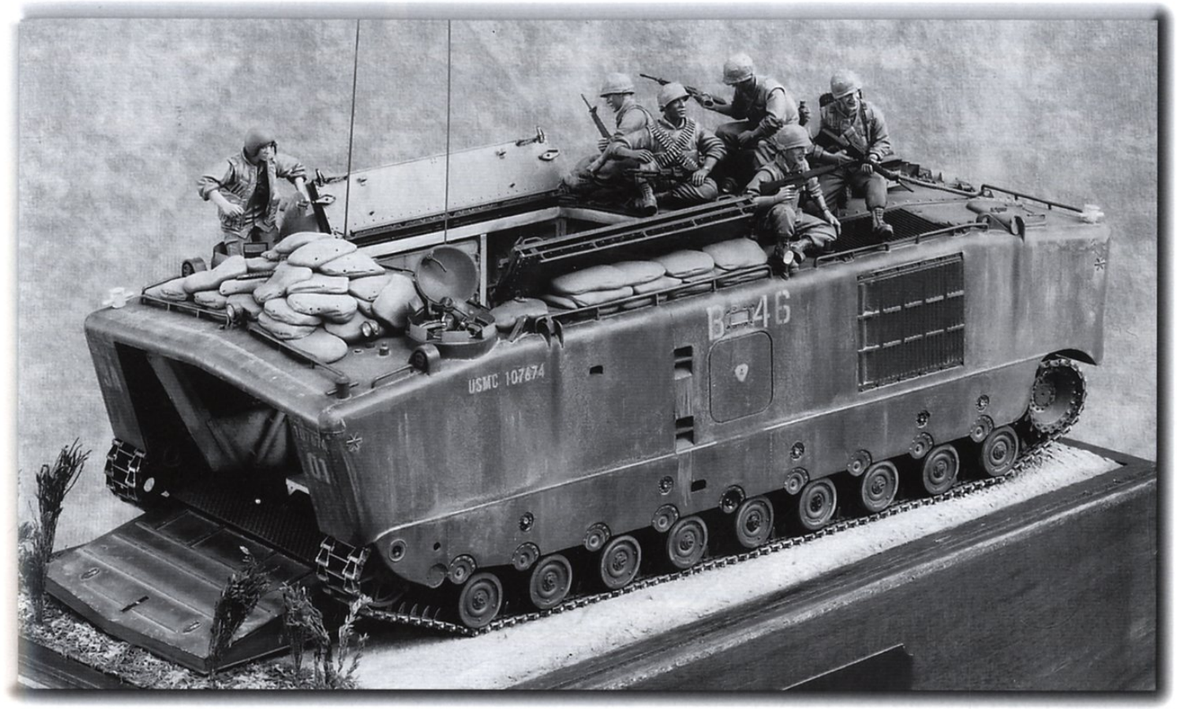


A. This is an overall view of the Büffel with the towing jib bar installed. With the blade in this position, it wasn't possible to discern details of the blade mount. B. This rear shot shows the right side and jib crane off. The overlapping numbers are the battalion symbol for the 214th Panzer Battalion. C. The commander's hatch is missing its mount for the machine gun, but the base next to the periscope is visible. D. Details of the crane head. E. This is probably the most valuable photo for assembling the kit. The A-Frame and all the associated parts can be clearly seen here. F. This is a good shot of four of the smoke grenade launchers. The shield on the left side is mounted in the center on the Leopard and the tow hook is also different. G. The other four smoke grenade launchers and headlight details. Notice the horn. This is not included in the kit. H. This assembly was difficult to see because of the two sheet metal covers that obscure the details. I. This rather unusual contraption is the right side view mirror in its folded position. This keeps it from getting broken when the crane is in operation.

All photos: Wilhelm Stöcker

Get on the Bus!

Detailing the AFV Club LVTP5A1 kit with help from Hobby Fan



Many good things have been written about the LVTP5A1 kit since it was released in 1999. AFV Club did a fine job producing the all of the styrene parts with delicate detail and few construction snags. In my opinion, the weaknesses of the kit are the hull/roof joint seam and the loose fit of the suspension arms. Incorporating the Hobby Fan interior required only minor modifications to the base kit. That's because AFV Club and Hobby Fan are essentially the same company and, obviously, both kits were designed to work together. Location pegs inside the LVTP5A1 match up exactly to the Hobby Fan interior.

Come on inside

The Hobby Fan interior is packaged in sealed bags and contains a total of 116 parts. The most delicate ones have been separated from the larger ones to reduce damage. A parts inventory and inspection revealed no damaged or missing parts. The instructions provide a legend as a guide. There are no markings or photo-etch.

All of the parts are cleanly cast in resin and rate very high on the quality level. Delicate details and undercuts are faithfully reproduced without casting flaws, such as holes and seams. Most pour plugs are a "snap" to remove using fingers and light pressure. The 116 parts range in size from tiny turn wheels, to the one-piece floor. Other impressive parts are the joystick-like driver's steering control, instrument panel and gun turret. The exploded-view instructions are basic, but are adequate to guide the assembly.

Fun with sand

The Hobby Fan Sandbag set features four cast resin sandbag pieces, and driver and commander figures. The sandbag pieces are arranged realistically, interlock with each other and fit well to the model's roof. The front piece almost completely covers the gun turret, with just a small opening for the .30 cal machine gun barrel. The underside of the turret has no detail. The sandbags have damage and bullet marks.

The driver and commander figures wear flak jackets and tanker helmets. The heads and arms are cast separately. The web belts, jungle boots, and flak jackets all show the talent of the sculptors and mold makers. Casting pour plugs are unobtrusive and easy to remove. Arms and heads are keyed to sockets. Their facial expressions seem a bit rough, but replacement heads from Hornet are available, if preferred. There are no painting or assembly guidelines.

Grunts to go

The Hobby Fan USMC Riders set contains five infantrymen in unique poses. They share the same characteristics as the driver and commander figures described above, but have much better faces. The two that stand out are the RTO and machine gunner with his belt of ammo across his shoulders. Accessories are separate and include M16 rifles, ammo pouches, canteens, and a PRC-25 radio. The only painting and assembly guide is the color photograph on the box.

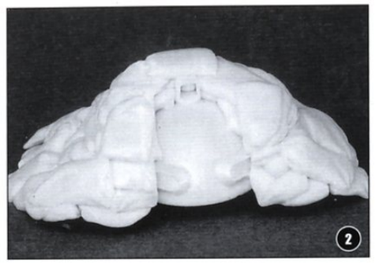
Now the bad news...

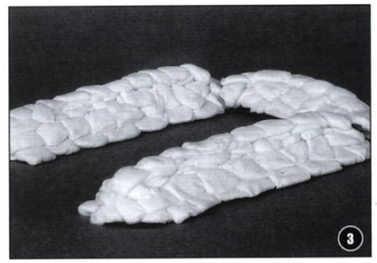
The sandbag set and the Marine riders are intended for a model without an interior. The sandbag set prevents the opening of the large roof hatches, where the figures are supposed to sit. Although the figures can be relocated, the sandbag set will not work unless the roof hatches remain closed. The solution would be to make replacements from putty and place them around the open hatches.

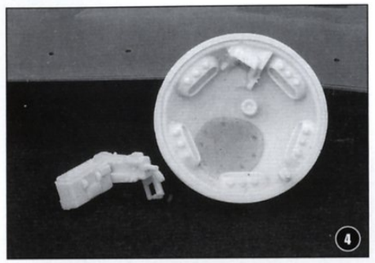
Getting to work

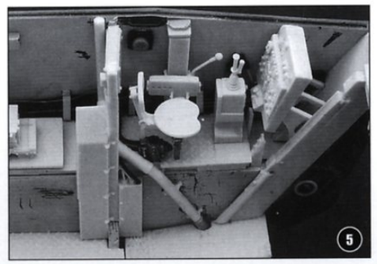
The AFV Club LVTP5A1 basic hull and suspension was constructed before working on the interior. After the hull "box" was built, the tracks were assembled and dry fitted to the suspension, but kept separate to install later. The top run of track was not installed. Any detail parts were left off until later to avoid damage.

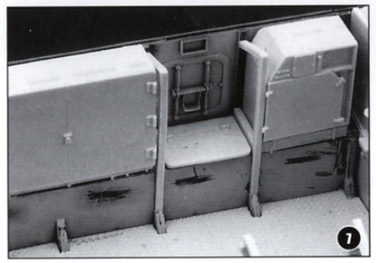
Shifting attention to the Hobby Fan interior, the floor and rear firewall were shaped to the proper fit with the AFV Club kit floor and sides. Dry fitting the roof and making shape refinements to the firewall was critical to ensure proper fit. The

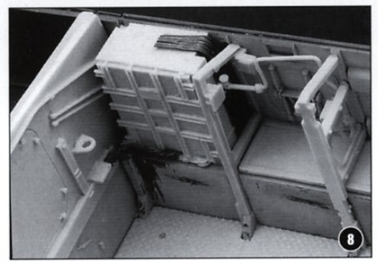


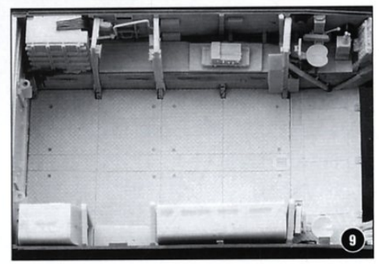












1. Hobby Fan's sandbag set box top photo, showing how the hatches must be closed to use. 2. Hobby Fan's sandbag set, part 1. 3. Hobby Fan's sandbag set, part 2—the gun turret 4. Inside view of gun turret from Hobby Fan's interior set. This one is fully detailed and improved with a head cushion fashioned from A+B putty. 5. Driver's station. A spare parts hydraulic pump is below the seat. Wire bundle behind radio is secured with lead foil straps. Joystick is a superb one-piece casting. 6. Commander's station and huge stowage locker. Details added that were not found in the interior set include a rifle rack, lantern, aid box, radio, and wiring. 7. Starboard side rear, showing escape hatch detail that AFV Club molded into its kit to complement the Hobby Fan interior. 8. Wiring is added to this junction box at port side rear. The plumbing is part of the fire extinguishing system. 9. All the interior components in place. The firewall seemed a bit too far forward compared to references, but was left as is.

recommended placement of the firewall seemed slightly too far forward when compared to the reference photos. Placing it otherwise would have involved major surgery, so it was left as is. The floor fits into supports already molded into the kit's sidewalls. Slight trimming was necessary for a correct sit.

Next, the sponson flooring was installed, along with the lockers, racks, fire extinguisher, radio, fan blower housing, bilge pipes and support posts. I noticed that the water/fuel can and rack was not a U.S. pattern. An Italeri can was used instead and mounted to a lead foil rack. The radio was wired, and a wire "snake" added behind the radio with lead foil stays. Extra wiring was added whenever necessary to supplement the molded on wire details. There are many opportunities to go nuts here, but moderation prevailed and I limited it to areas readily seen through the open hatches. The bench seats were assembled, but not installed until later. They were slightly warped, but were straightened with hot water.

At the driver's station, the flooring was first set in place. The instrument panel was mounted to three supports that attached to a blanking plate that snugly fit to the forward most wall. Some trimming was needed for it to sit correctly. The seat rack was mounted to the support tabs already molded to the AFV Club kit's hull side, but the seat would be added integrally with the driver figure. Extra detailing was added to the sidewall to simulate the boxes, intercom controls, hand throttle and handhold that were not included in the interior set. The hydraulic control on the floor for opening the ramp was added using spare parts. More wiring was added here for extra realism. Finally, a lead foil seat belt was threaded through the wire loop under the seat.

The commander's station received the same flooring, seat and blanking plate parts as the driver's station did. A detail not included in the interior set was a rifle rack. This was made by cutting the shape from .010" styrene strips and mounting it in front of the commander's seat. An AN/PRC radio and its rack were made from bits of styrene and brass rod and mounted behind the commander's seat. A fire extinguisher from the spare parts box was also placed there. An aid kit and lantern were added to the sidewall. The lantern received a MV Products lens for its reflector. Bits of wiring were added to the wall and the radio. The front hatch/ramp was framed with three Hobby Fan parts and hand wheels installed above the ramp opening. Holes were drilled in the side framing and the hatch/ramp for lift cables. Whew!

Now, the LVTP5A1 roof was considered. Before detailing could begin, all the holes were plugged from the inside and sanded smooth. Hobby Fan only provides four boxes and the periscopes, which leaves quite a bit under represented. Supplemental details were added; namely intercom boxes, wiring, handles, and head (ouch!) cushion. A few bolt heads were added to simulate fittings on the exterior side.

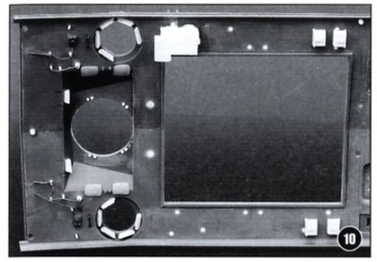
The gun turret from the interior set features details like a complete .30 caliber machine gun and vision ports. A head cushion simulated with putty was the only modification. The hull must be cut to fit the turret properly. The AFV Club LVTP5A1 kit's periscope bulges were installed to complete its assembly.

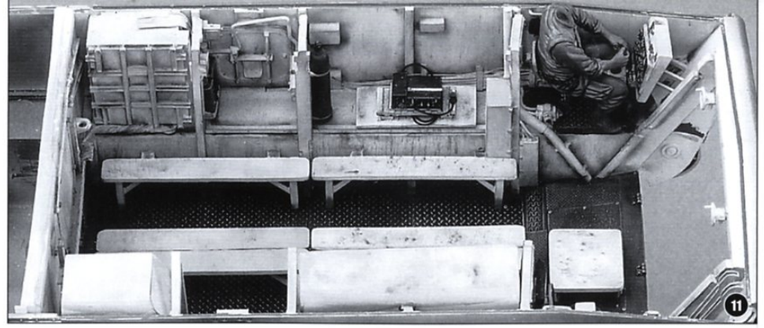
Buttoned up

It was necessary to completely paint the interior before the exterior construction could proceed. Tamiya flat white was chosen as the base color, although a semi- or full gloss white would also be acceptable. Flat paints seem easier to weather, especially since dry color pigments would be used. The floor was painted flat black, but could also be the same USMC Green as the outside. It may be a stretch to find an USMC vehicle so dirty, but in-country photos show lots of the reddish dust everywhere. So, a reddish brown pigment was brushed around into crevices and surface details. In addition to the reddish dusting, the floor was highlighted with silver to simulate wear of the non-skid surface. The rest of the interior was painted appropriately, using red for the fire extinguishers, black for the radio and the instrument panel dials were simulated with black faces and white lettering. The internal periscope glass was simulated with rectangles of green plastic.

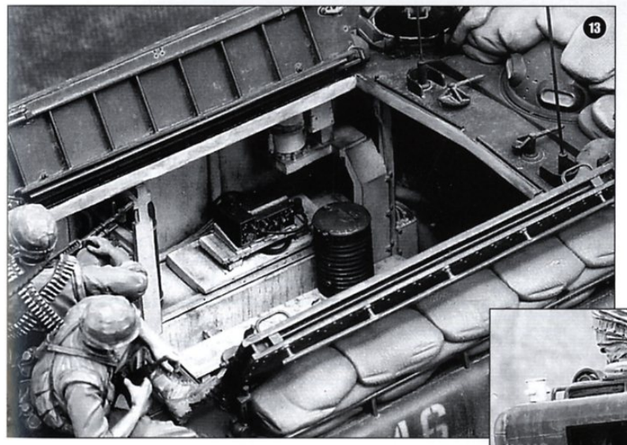
The driver was painted with Vallejo acrylics so he could be placed in his seat before gluing the roof down. It was an effort fitting him in place with his feet planted on the floor. His left arm was shaved almost to the point of obliteration to squeeze past the periscopes. His head was improved by replacing it with one from Hornet's HUH03 set, which includes separate helmet microphones. The steering control lever (wobble stick) was added at this time.

The roof was finally glued down with lots of liquid styrene and tape to hold everything together. When dry, a prominent seam remained around the entire roof, but it was no big deal to repair.





10. Roof underside shows Hobby Fan periscopes, fan blower housing, and tool boxes. White specks are holes plugged with plastic rod. Head pads, bolt heads, wiring, handles, and intercom boxes were added to make up for deficiencies in the interior set. 11. The headless driver in place inside the painted and weathered interior. The bench seats were slightly warped, but straightened with scalding water. The Marines probably kept theirs cleaner than this, but it matches the dirty exterior. 12. The Driver and Commander figures were used from the Hobby Fan sandbag set even though the sandbags were not 13. The riders sit snugly upon A + B sandbags. The tow cable is from Karaya. 14. A glimpse inside. The radio and a water cooler are in view. One ladder is stowed on the bifold door; the other is seen on the rear deck. Note the sculpting detail on the Commander figure's flak jacket.



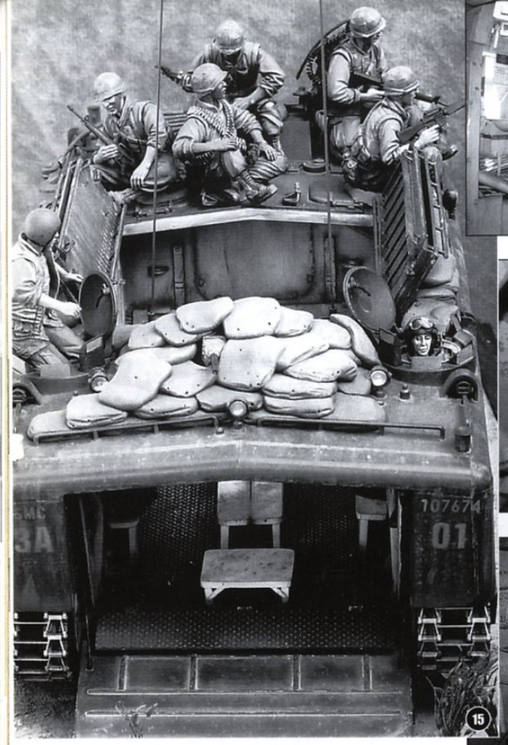
Exterior final assembly

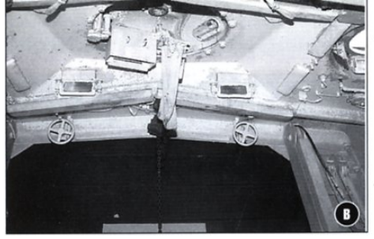
Going back to the AFV Club kit for a while, all the remaining parts were cleaned up and installed according to the instructions. Minor modifications included placing MV lenses in the spotlights and using a Karaya tow cable.

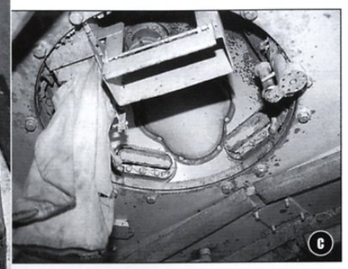
Some of the model's subtle weld bead detail was damaged while repairing the roof seam. Corrections were made using Gunze Sangyo Mr. Surfacer masked off with painter's tape.

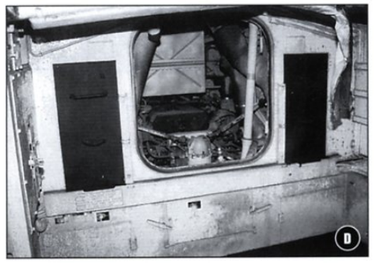
The sandbags were the next order of business. As stated earlier in this article, homemade ones would allow more freedom to place the figures and hatches to best effect. The ideal medium for sandbag fabrication is generically known as A + B putty. The two parts were kneaded together to a clay-like consistency, shaped to size and pressed with a veil-like cloth to impress a surface texture on each sandbag. This prevented fingerprints and added a realistic surface. They were pressed into place while soft and became rock hard overnight.

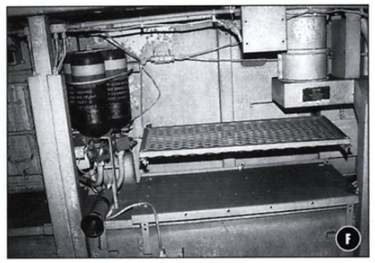
The layering of bags was done without a whole lot of thought, as there was no defined pattern to them in reality. Whole machine gun nests were











15. The huge front door lowered as a ramp. Lift cables are at each corner. The turret gunner would stand on the short table. Both the Commander and Driver had their heads replaced with ones from Hornet. Lenses are MV Product replacements. The red and white rope tie downs are a nice color contrast. The USMC Green base color is heavily weathered with pastel washes and dry pigment streaks.

A. Driver's station. Part of the ramp lift cable is dangling from the roof. A chain pulley is at center; used to manually close ramp. B. The hand wheels engage loops on the ramp and solidly secure it for water travel. Roof support members have cushioned pads to protect the passengers. C. Looking up inside the gun turret showing the head cushion and spent ammo bag dangling downward. D. The firewall with engine maintenance door removed. Wiring is tunneled through the slender rectangular object below the hatch opening. E. The large locker on the starboard side. The bilge pipe heads toward the roof. Labels indicate items stored here; bulb box, hand oiler, grease gun, tripod, and spare machine gun barrel. F. From the left, the fire extinguisher, radio rack, and fan blower housing for clean air circulation.

often built this way, with corrugated metal or PSP plating sometimes added for extra measure.

The grunts riding on top were temporarily placed on the roof, as their poses and the model allowed. Sandbags were made for them to sit on so they wouldn't "float." Besides, who wouldn't want a little padding while riding one of these beasts?

The large bi-fold hatches on the roof were assembled and mounted in the open position. They had no internal detail, but since they are folded up, it isn't visible anyway. One of the ladders was stowed with lead foil brackets. The other one was left loose for placement on the roof later on. The front ramp operated freely on its hinges, so the interior would be protected while painting the exterior. Lifting cables were added to the corners using picture-hanging wire.

Painting and markings

The USMC Green used was a custom mix of Gunze Sangyo Dark Green and Dark Gray. Future gloss floor wax was then hand brushed over the entire model to mimic the sheen of the real vehicles. The markings were applied straight from the decal sheet and are included in the AFV Club kit. They depict the USMC 3rd Division.

Detail painting was carried out next with Vallejo acrylics by painting the crew steps red, the tie downs at each roof corner white and red, the periscopes light green, the tail lights silver and red, and the sandbags Olive Drab.

The suspension, tracks and lower hull were airbrushed with a reddish-brown mixture. This color was also airbrushed lightly over the entire model and then concentrated on runoff areas on the hull sides. An overall soiled look was achieved by dissolving pastel chalk in airbrush thinner and applying with a paintbrush. Additional streaking was made with yellow ochre, brown, Indian red and black dry pigment powders. Now the original base color has been transformed into a well-weathered appearance, which better matched the filthy look seen in period photographs.

The Commander was assembled and head-swapped with one from the Hornet HUH03 set. Like the driver, he was also painted completely with Vallejo acrylics. The rest of the Marines were painted the same way.

Conclusion

Hobby Fan's interior—though not as comprehensive as it could be—builds as expected, and exhibits casting detail and quality that are highly admirable. The value does not fare as well, where more could have been provided to flesh out the hull roof, driver and commander stations. The USMC figure set greatly compliments the AFV Club kit. The sandbag set does too, but really is best used with a closed up model.

—John Robinson

MMiR RECCE

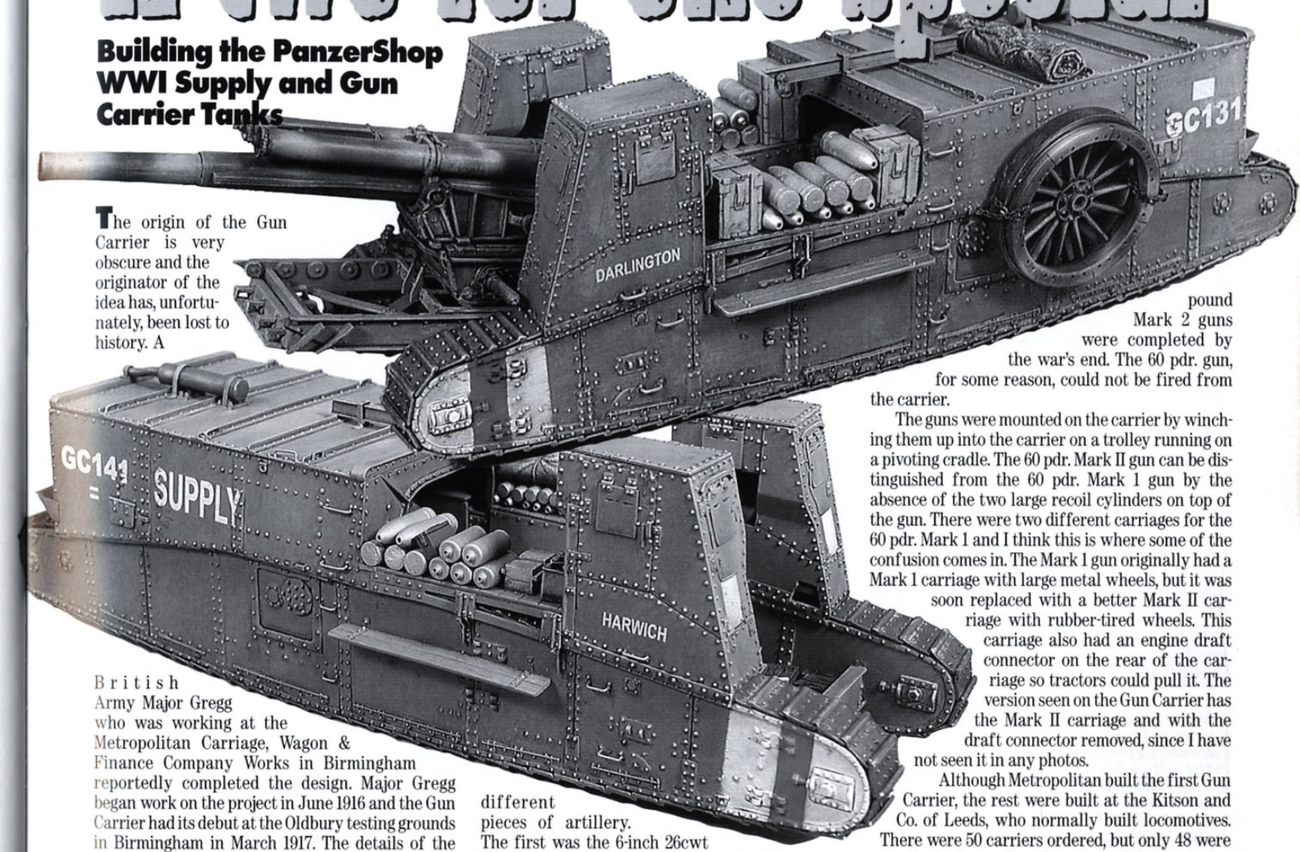
AFV Club LVTP5A1. Kit number 4035. Suggested retail price $45.00.
Hobby Fan LVTP5A1 Interior. Kit number HF010. Suggested retail price $99.00.
Hobby Fan LVTP5A1 Sandbags with figures. Kit number HF516. Suggested retail price $45.00.
Hobby Fan US Marine Corps figures for LVTP5A1. Kit number HF515. Suggested retail price $50.00.

References

Amtracs: US Amphibious Assault Vehicles, Vanguard #30, by Steven J. Zaloga, Osprey, London, 1999. ISBN: 1-85532-850-X. Development and combat use described, with a few photos. Proportionally smaller than coverage of LVT-1 through -4 series.
LVTP-5 Marine Corps Maintenance Manual (ORD-MM-7000A), October, 1957. Externally differs from the A1, but the interior views still relevant. See reference below.
AFV Interiors Website, by Mike Kendall. Excerpts from ORD-MM-7000A; descriptions and actual vehicle photos.
Amtrac Platoon Website, www.geocities.com/pentagon/5791, by Thomas P. Williams. Lots of photos from personal collections.

A two for one special

Building the PanzerShop WWI Supply and Gun Carrier Tanks



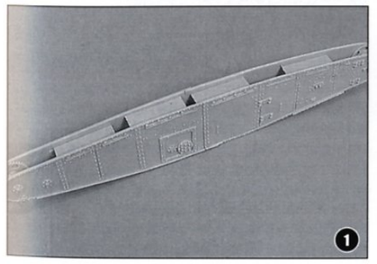
The origin of the Gun Carrier is very obscure and the originator of the idea has, unfortunately, been lost to history. A British Army Major Gregg who was working at the Metropolitan Carriage, Wagon & Finance Company Works in Birmingham reportedly completed the design. Major Gregg began work on the project in June 1916 and the Gun Carrier had its debut at the Oldbury testing grounds in Birmingham in March 1917. The details of the prototype that was first demonstrated at Oldbury are not known and it is not even known for sure what was actually shown. Major Gregg based his design on the Mark I, the original medium tank, and it was supposed to be used as a self-propelled artillery transporter. Actually, the design was only loosely based on the Mark I, since to make room for the gun, the power train had to be reversed and placed in the rear. Delivery of the Gun Carriers began in June 1917.

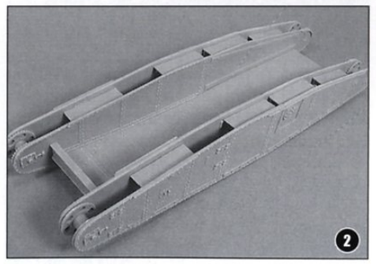
The Gun Carriers were designed to carry two different pieces of artillery. The first was the 6-inch 26cwt Howitzer Mark I and the second was the 60-pounder Mark 2 Field Gun, which was a long barreled 5-inch gun. Both guns were carried in the same way in the center well. The wheels were removed and hung on the sides, since none of these mounts was considered permanent. The guns were supposed to be able to be fired from the carrier but, in fact, only the 6-inch Howitzer could be. The 60 pdr. Mark 2 gun, which the carrier had been designed for, was not even available yet, so the 60 pdr. Mark 1 was used instead. Actually only four 60 pound Mark 2 guns were completed by the war's end. The 60 pdr. gun, for some reason, could not be fired from the carrier.

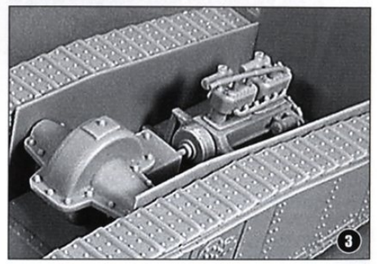
The guns were mounted on the carrier by winching them up into the carrier on a trolley running on a pivoting cradle. The 60 pdr. Mark II gun can be distinguished from the 60 pdr. Mark 1 gun by the absence of the two large recoil cylinders on top of the gun. There were two different carriages for the 60 pdr. Mark 1 and I think this is where some of the confusion comes in. The Mark 1 gun originally had a Mark 1 carriage with large metal wheels, but it was soon replaced with a better Mark II carriage with rubber-tired wheels. This carriage also had an engine draft connector on the rear of the carriage so tractors could pull it. The version seen on the Gun Carrier has the Mark II carriage and with the draft connector removed, since I have not seen it in any photos.

Although Metropolitan built the first Gun Carrier, the rest were built at the Kitson and Co. of Leeds, who normally built locomotives. There were 50 carriers ordered, but only 48 were actually built as Gun Carriers, while two were made into tank retrievers with a large crane mounted on the front.

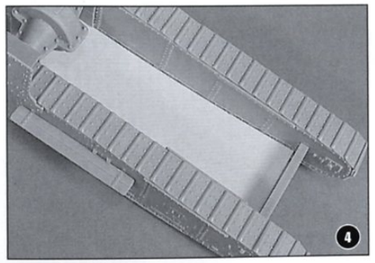
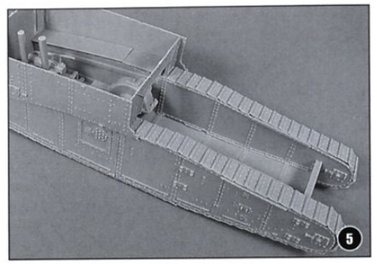
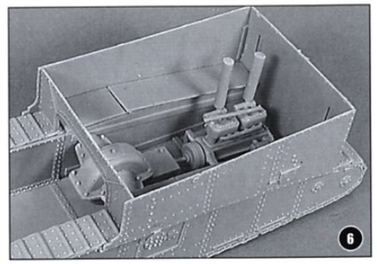
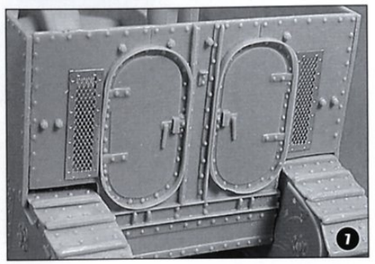
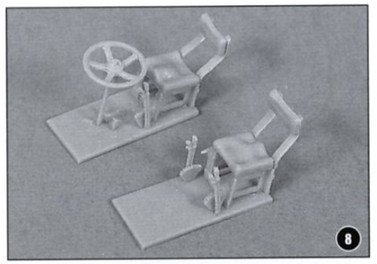
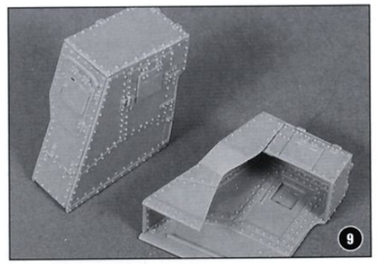
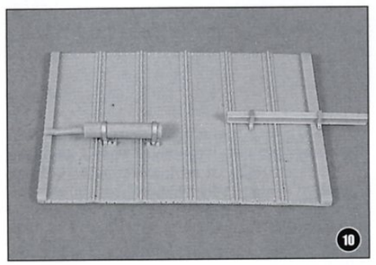
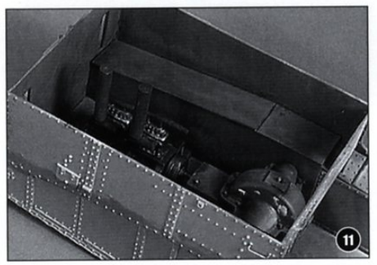
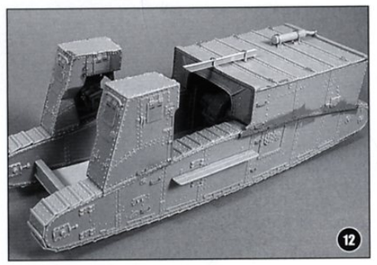
Originally, rear steering wheels had been tried and discarded on the Mark I tank after they proved worse than useless when they arrived at the front in 1916. Despite this, they where also put on the original batch of Gun Carriers. Once in France, however, they were quickly tossed. Although sharing components, the carriers were very different from the medium tanks. The track frames were low with a







1. The two sponsons are built out of four major sidepieces. Be careful not to get the pieces confused. 2. The floor pieces need to be cut down to a width of between 43 and 42.5mm, otherwise they are too wide. 3. The engine was built and installed along with the rear wall.

4. Unfortunately, I did not know about the width problem on the Supply Carrier, so I had to replace the main floor section with thick sheet styrene. 5. I learned my lesson by the time I built the Gun Carrier chassis and cut the center section down first. 6. The rear walls were difficult to get on. There is a narrow ledge that they need to rest on. I had to trim the tracks down a little to get them on. 7. The screens on the rear were a nice touch. You need to indent the rivets from the rear with a nail. 8. The driver and brakeman seats. I believe the large wheel should have been removed, since I think it was only for the rear steering tail, but I could not confirm it. 9. The driver and brakeman cabs. They look a little crude, but so did the real ones. 10. The engine compartment roof with the muffler (the British call it a silencer) and the beam to help move heavy objects. 11. The interior of the engine compartment and operator cabs was first painted and weathered before gluing the pieces together. 12. The Supply Carrier after gluing on the cabs and engine roof. Also there are a number of grab handles that need to be added.

rear box-shaped engine and drive train compartment. The driver and brakeman were each in a small one-man cab on either side of the front. The other two brakemen's station was in the rear in front of the engine. Yes, it took four guys to drive this monster. The well in between the cabs was where the gun was mounted. The 6-inch gun weighed in at a hefty 3 tons and the 5-inch gun at 5 tons. The carrier itself weighed 25.4 tons empty, but could carry up to 10 tons. It was crewed by five men, not counting the gun crew and could speed along at a brisk 6 km/h. It used the same 105 hp 6 cylinder Daimler gasoline engine as the Mark I tanks.

Two companies of these carriers were formed with the 1st Gun Carrier Company arriving in France in July 1917. They were used here and there, but not in their intended role. Normally, it was found they were more useful as supply carriers. It turned out they were excellent in this role, since they could carry so much more than the other supply tanks, which were the older Marks. The original Mark I's and later other tanks once obsolete were retrofitted to carry supplies. Supplying this new invention, the tank, was a major problem for the British Army because of the crude conditions of road and terrain. Because of this, a tracked supply carrier was very important. It seems the gun carriers were almost never actually used in their intended role of a self-propelled gun carrier. The 2nd Gun Carrier Company was formed in England and shipped to France in January 1918. Oddly enough, it was the only company to ever fire any of its guns from the carriers and then only a few times.

One rather infamous action these Gun Carriers participated in was at the Battle of Amiens, when Gun Carriers from the 1st Gun Carrier Company supported the Australians. On the evening of 7 August 1918, they were parked in a holding area around Villers-Bretonneux loaded with mortar rounds when some German shells dropped in among them. The result was not pretty as several of the carriers caught fire and the ammunition on them caused a lot of secondary explosions.

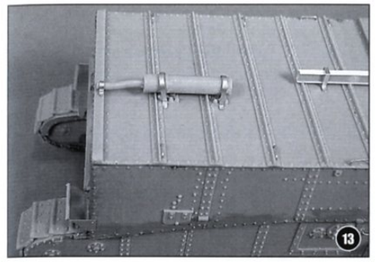
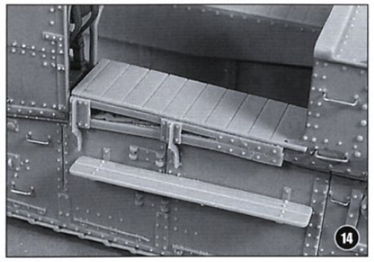
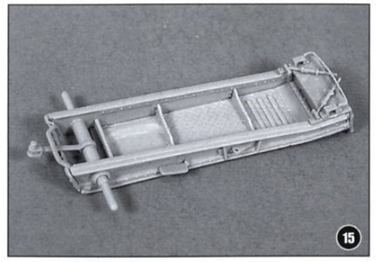
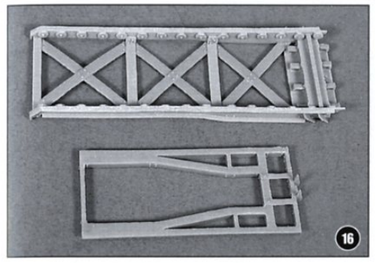
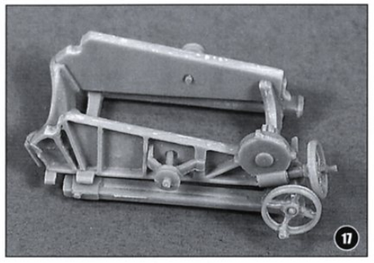
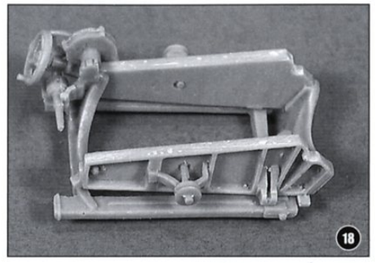
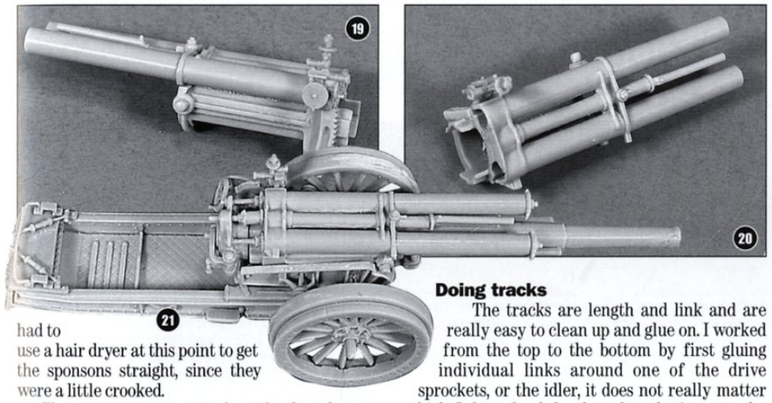
The PanzerShop kits

PanzerShop has produced two kits of this carrier, allowing the modeler to build either the gun or supply version. I picked up both mainly because I am fascinated by First World War armor. These kits are more gems from PanzerShop and they never fail to pick interesting subjects. The kits are resin with photo-etch parts. The basic supply kit consists of 280 parts and the gun version has over 300. Both kits have decals for four vehicles, fine chain and wire. Both are also designed for experienced modelers and are sold by PanzerShop with that proviso. I got these kits as soon as they were released, so I was kind of beta testing them. I did run into one problem that is described below. The gun PanzerShop lists for the gun carrier is the Mark II, but I believe the Mark II refers to the carriage and not the gun. I take partial responsibility for this mistake, since Libor based his gun on the drawings that I had acquired for him from the Tank Museum at Bovington. The drawings are labeled "60-pound gun Mark IIL," but I believe the IIL is the carriage and not the gun.

First, the Supply Carrier: basic hull construction and a little surprise

I started with the two sponsons by cleaning up the two-piece sides and gluing them together. The instructions consist of photos of the steps, but sometimes the photos are a little washed out, making it difficult to see the pieces. I next assembled the drive sprockets and idlers. These were then glued to the sidepieces of the sponsons, then the other side was glued on. I then went around gluing in the spacers. I had to use a hair dryer at this point to get the sponsons straight, since they were a little crooked.

The two sponsons were then glued to the two pieces that form the floor. Now for a bit of trouble. It took a while to realize that I had a problem, but I thought I should point this out to you now. The floor pieces, R9 and R10, are about 2mm too wide. It did not become apparent until I started gluing the side and rear pieces, R118-120, of the engine compartment on. There was a substantial gap that could not be filled. Originally, I used shims to fill in this gap, but then I realized the roof piece would not fit because I had enlarged the width. Very reluctantly, I broke apart the hull and removed the sponsons from the floor pieces. Unfortunately, I had done a very good job in gluing the pieces together, so the floor pieces were destroyed in this process. I substituted a sheet of thick sheet styrene for the floor. The obvious down side is that I lost all the neat detail on the floor piece. The good news is most of it does not show on the finished model, so I added only rivets where they showed. The lesson here is to remove at least 2mm from the two floor pieces' width before gluing on the sponsons. Or, a better way to measure it is to make sure the floor is no more than 42.5mm wide. I contacted Libor Matejka, the owner and operator of PanzerShop, and he informed me he would fix this problem and include the correct measurements in the instructions of all subsequent kits.

13. The rear of the Supply Carrier after the engine roof was added. Notice the photo-etch rear fenders. 14. This platform caused me a lot of trouble, but I think I got it right. 15. The basic cradle for the gun. This is the main base that the gun mount goes on. 16. If I have got it right, the top item here is the skid, which slides out of the carrier and contains the gun cradle. The lower item is the trolley that slides out on the skid. This was particularly difficult to assemble. 17-18. The gun mount was also a little difficult to assemble. 19-20. The two recuperator tubes for the gun barrel needed a little work to fill in a large gap. 21. The 60 pdr. ready for painting.

Doing tracks

The tracks are length and link and are really easy to clean up and glue on. I worked from the top to the bottom by first gluing individual links around one of the drive sprockets, or the idler, it does not really matter which. I then glued the three length pieces on the top and finished up the other end with individual links. These were glued around to the bottom and then two lengths were glued on. The last length on both sides needed a little trimming to fit, but it is not really noticeable from the top.

The engine was assembled, but I did have difficultly determining the placement of some parts. The engine was mounted along with the transmission in the engine compartment. I then added the rear and side pieces after redoing the floor as described above. The top for the engine compartment was a little warped, but a hair dryer took care of that. I then went around and made grab handles out of brass wire and glued them all on. If I counted right, there are 20 grab handles and they are all different sizes!

Dig those cabs

The two forward cabs, one for the driver and one for the brakeman, were then assembled. I cut out the small slits in the ports and set the cabs aside. The driver and brakeman seats and controls were glued together, but left out. The driver side has a steering wheel, which I believe may be incorrect. I think this was only for vehicles with the tail wheel, but I am not sure, so I put it on anyway. I wanted to paint all these pieces before assembling. I then washed everything in warm soapy water and once dry, I sprayed the inside of the two cabs and engine compartment with Tamiya XF-49 khaki. I then painted the engine with Vallejo gunmetal. The crew seats were painted with red brown leather and the levers and pedals were also painted with gunmetal. I used a wash of black/burnt umber oil inside the engine and crew cabs. Finally, I dry brushed with white and burnt umber oil paint.

The top of the engine compartment was now finished with the addition of the muffler and crane beam. The crane beam had a pour problem, so I replaced it with a thin piece of strip styrene. I also drilled out the exhaust pipe and used the photo-etch parts for the straps. The top was then glued on. Some minor filling was required around its edges.

I made one mistake next. I glued the driver and brakeman seats into their cabs and then glued them to the hull. I should have also glued the support piece, R140, before attaching them to the hull. Trying to do this afterwards was very difficult. The next item was gluing the shelf that goes between the engine and cabs. I finally figured out how it was supposed to be positioned and glued it on.

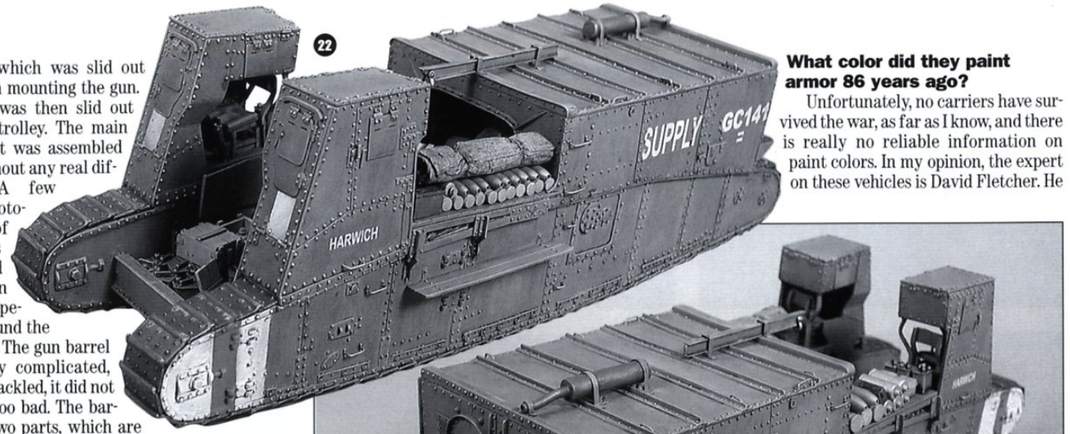
Second, the Gun Carrier

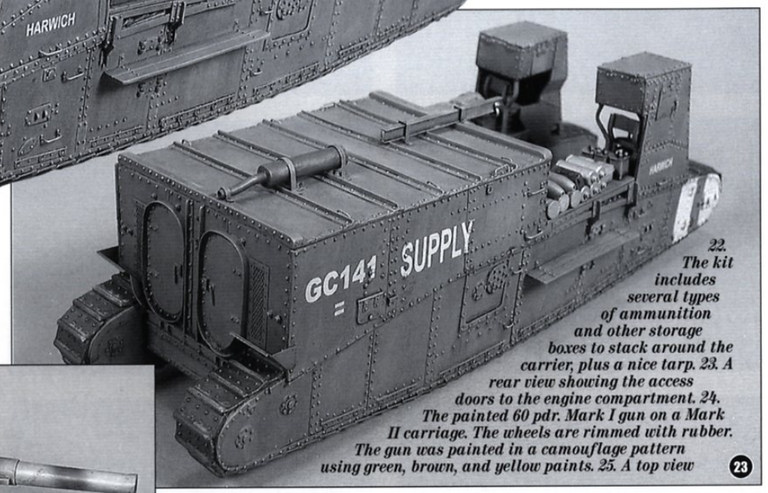
The construction of the basic hull was the same as on the Supply Carrier. The only difference is the gun and its mounts. Of course, this time I cut the hull pieces 9 and 10 down to around 42.5mm width and this seems to have worked fine.

The crews called the base for the gun the "skid." All the pieces were cut off their pour blocks and then assembled. The larger base was called a

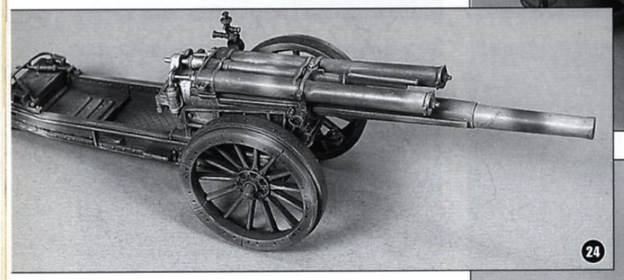
"trolley," which was slid out first when mounting the gun. The skid was then slid out onto the trolley. The main gun mount was assembled again without any real difficulty. A few more photographs of the parts would have been nice, especially around the front end. The gun barrel looks very complicated, but once tackled, it did not turn out too bad. The barrel is in two parts, which are cast together, but mine was a little warped. A hair dryer took care of this little problem. The breech assembly is rather difficult to figure out and the fit was not great. It took a little cutting and filling to get everything in order.

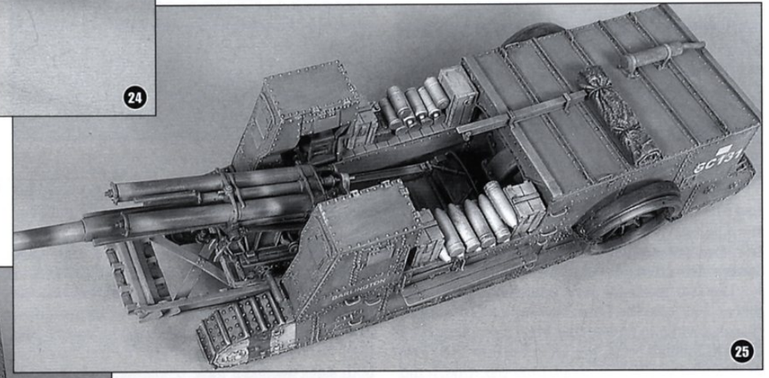
The trolley was a little difficult to assemble but after a couple of false starts, I ended up first gluing the front piece, R124, to the two sides, R122 and R123. The rear piece, R126, was too wide, so I cut it down to the same width as R124. This was then glued on. Next, I glued in the front "X" brace, R95, then glued the second cross support, R125, in. Next, the 'X' brace, R96, then the last cross member, R125, and finally the last 'X' brace, R97. The reason I recommend this order is to be sure the spacing is correct. I tried it by first gluing the R125 pieces in, only to find they needed to be nudged a little in one direction or the other. The last frame was pretty easy, as it only had three pieces including R128, and two small pieces, R129, that are stoppers that go on the front.

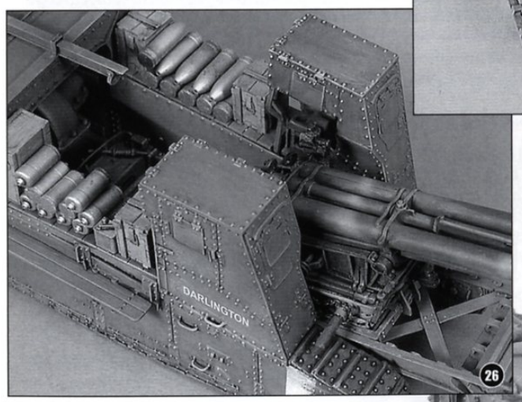


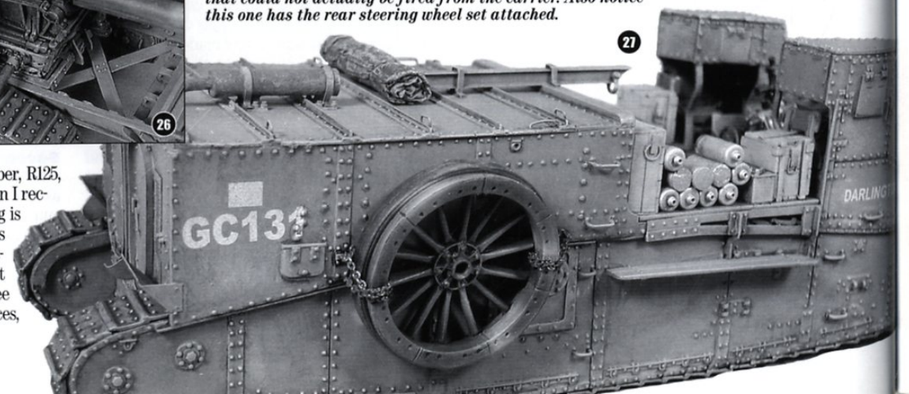


22. The kit includes several types of ammunition and other storage boxes to stack around the carrier, plus a nice tarp. 23. A rear view showing the access doors to the engine compartment. 24. The painted 60 pdr. Mark I gun on a Mark II carriage. The wheels are rimmed with rubber. The gun was painted in a camouflage pattern using green, brown, and yellow paints. 25. A top view showing the configuration of the gun in the carrier. 26. The chain going around the axle of the gun was used to help load and unload the piece. 27. The wheels were mounted on the side using chain supplied with the kit. The chain was painted rust, then weathered. 28. Another view of the Supply Carrier showing all the storage. The vehicles could carry up to 10 tons of supplies. 29. This is one of the early models of the Gun Carrier with the 60-pounder Mark I Field Gun mounted. Interestingly, this was the gun that could not actually be fired from the carrier. Also notice this one has the rear steering wheel set attached.



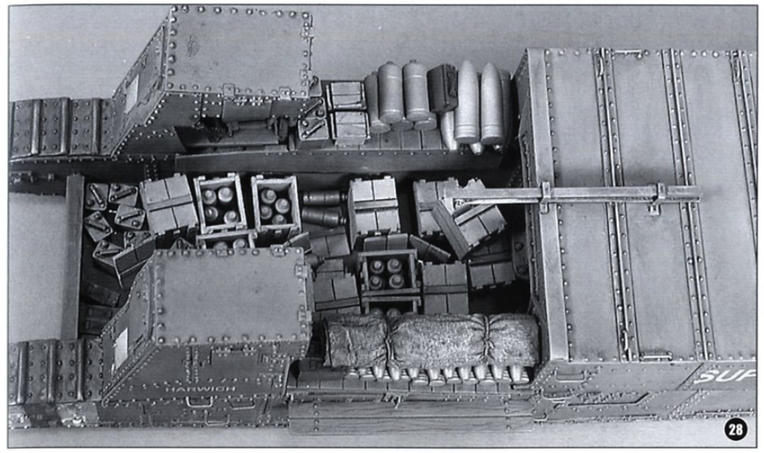






What color did they paint armor 86 years ago?

Unfortunately, no carriers have survived the war, as far as I know, and there is really no reliable information on paint colors. In my opinion, the expert on these vehicles is David Fletcher. He has stated that these vehicles were probably painted some shade of brown. One thing is clear, they were probably never painted green. I took some artistic license and chose khaki, since it is sort of brown and all the photos I have show a fairly light color. I started with the Supply Carrier, which after another wash in warm soapy water was painted (yeah, it was getting pretty clean by now). I sprayed the chassis with Tamiya XF-49 khaki. I put the numerous boxes on 5 x 7 cards using masking tape and sprayed them Tamiya XF-55 deck tan. The shells were sprayed with a mix of Tamiya XF-17 flat aluminum and XF-24 dark gray. The ammo boxes were sprayed with Tamiya XF-26 deep green. After April 1918, most allied tanks had recognition markings painted on them. The usual was a white and red strip on the front of the sponsons. The carriers also had a small rectangle of white painted on the two cab fronts. PanzerShop has included these smaller white patches for the front. These have to go over some pretty uneven areas, so I painted them instead. I first sprayed the sponson markings with Tamiya XF-2 flat white, then XF-7 flat red. I then put a piece of tape over the red on both sides and repainted the area with white. These areas were then taped over and repainted with the khaki.



Markings for the Supply Carrier

The normal markings found on tanks and the gun carriers were a vehicle name, plus a registration number. The carriers that had been converted to the supply role had the word "SUPPLY" painted on both sides. Also, at least some of the carriers had a white and red strip marking on the rear, just below the registration number. This is also included in the kit decals. I sprayed the areas the decals were going with Tamiya X-22 clear gloss. The kit includes decals for four vehicles. I was lucky enough to find an excellent photograph of "Harwick," good old number CG141, so I used this vehicle as my model. After the decals were on I used Solvaset on the decals to get them to settle down. Normally, I only use this heavy duty setting solution for cases like this, since it seems to be the strongest. I had to use about four coats, and after putting the setting solution on and letting it soften the decals, I very carefully dabbed the rough areas with a brush. Once dry, I sprayed the whole vehicle with Polly Scale clear flat.

The carrier and all the boxes and other items then received a wash of 50/50 black/burnt umber oil paint. I then glued all the rounds and boxes around and inside the vehicle. They were then dry brushed with my usual sap green, white, yellow ochre and burnt sienna oils. The tracks and other items were dry brushed with a mixture of burnt umber and Rub n' Buff silver.

And the Gun Carrier

To paint the Gun Carrier, I used the same methods here as on the Supply Carrier. I chose to use the vehicle "Darlington," GC131, which was much photographed, although it only was seen carrying the 6" breech-loading howitzer. The major difference here is that I did not paint the white patch on the front of the driver's and brakeman's cabs, since the gun version did not seem to have them. Also, the patch on the rear is above the vehicle number, instead of below it, and the patch is solid white without the red line.

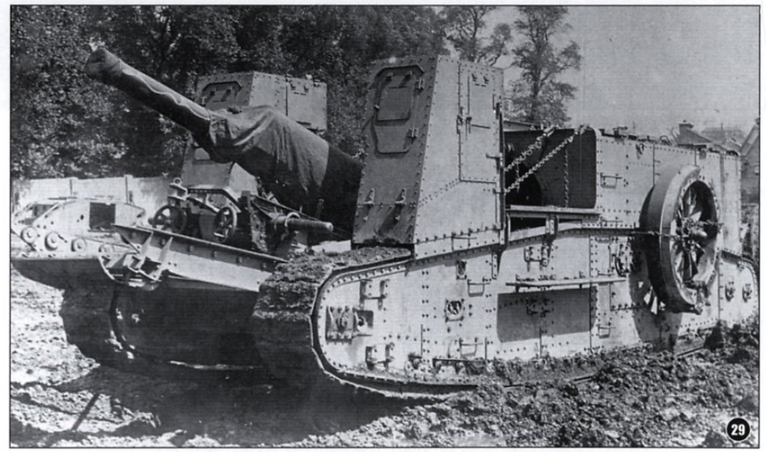
The gun presented another problem. The few photos I have of the 60-pound gun show it camouflaged, but I have no idea what colors they used and my research did not turn up any. I therefore based it on colors I believe were used, which were brown, green and sand. Even if it is not right, it looks good, so I gave it a try. I first sprayed the overall gun with Tamiya XF-26 deep green. I then sprayed the first camouflage pattern on using Tamiya XF-59 desert yellow, then Tamiya XF-64 red brown. The wheels actually have rubber tires on them, so I painted the rubber part flat black. The breech on the few photos I saw shows bare metal, so I painted this area with Vallejo silver.

Both the carrier and the gun were given a wash of black oil paint, then the running gear was given a second wash of 50/50 black/burnt umber oil. I dry brushed with a combination of white, sap green, burnt umber and yellow ochre. The wheels were then hung on the sides using the chain supplied by PanzerShop, which I had first sprayed with Model Master rust. There is also a chain that is wrapped around the axles of the gun, which I got from my spares box.

Results

This was an easy project and if you are interested in some very unusual World War I armor, these kits are a must. With the exception of the floor piece being too wide, the kits are great and very complete. I highly recommend both kits to anyone with some resin experience. I actually think they were not all that difficult to build and could be handled by anyone who has a moderate amount of experience building resin.

—Jim Hensley



MMiR RECCE

Panzer Shop Gun Carrier Mark I Supply. Kit number PS35C112. Suggested retail price $110.00.
Panzer Shop: Gun Carrier Mark.I w/60pdr Mark.II Field Gun. Kit number PS35C110. Suggested retail price $160.00

References

Fletcher, David. *Landships British Tanks in the First World War*, Her Majesty's Stationery Office, London, 1984, ISBN: 0-11-290409-2.
Fletcher, David. *The British Tanks 1915-19*, The Crowood Press Ltd, Ramsbury, UK, 2001, ISBN: 1-86126-400-3.
Fletcher, David. *Gun Carrier Machines, Wheels and Tracks Number 58*, Battle of Britain Prints International, Ltd. London, 1997. Although out of print this is the best single source on the Gun Carriers.
Hogg, Ian V. *Allied Artillery of World War One*, The Crowood Press, United Kingdom, 1998, ISBN: 1 86126 104 7.

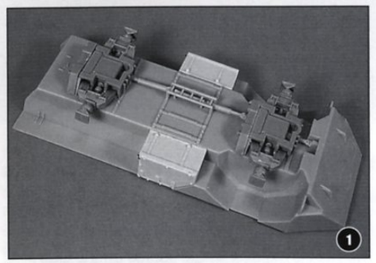
The French Army's fast getaway car

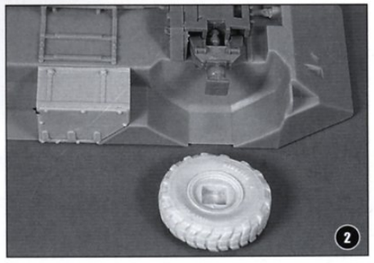
Putting together the Blast VAB 4x4 with a little help from Heller

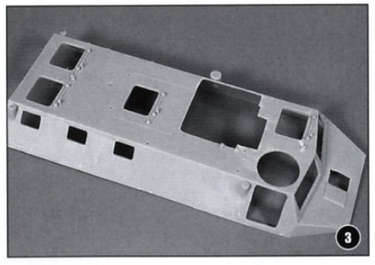
Now don't get me wrong, but I really like French armor just because it is so weird looking. This is especially true of the early, post war stuff. However, by the late 1960's the French Army apparently decided it did not like the ugly stuff either. Therefore, they made the decision to reequip their infantry units with a more up-to-date and conventional looking infantry carrier. Another driving factor at that time was the Soviet's introduction of the BMP. This was developed in the early 60's, but was not seen in public until 1967. The BMP set all the major powers back on their heels with its radical design. The French were like everyone else and realized the significance of the BMP's capabilities. Their first answer was the AMX-10P Infantry Combat Vehicle (ICV), but it was too expensive to equip all their infantry units. Therefore, in 1970 the French General Staff issued requirements for a more inexpensive wheeled APC to fill the gap. They requested an armored vehicle with full NBC capabilities and highly mobility both on road and off. They also wanted it to be a multi-purpose vehicle that was easy to maintain.

Panhard and Saviem/Renault both submitted prototypes of 4x4 and 6x6 vehicles for evaluation. This was conducted between 1973 and 1974. In May 1974, Saviem was announced as the winner. The new vehicle was designated the Véhicule de l'Avant Blindé (Forward Area Armored Vehicle) or more simply, the VAB. The French Army was so happy with the prototype that no pre production models were ordered. Instead, they ordered it right into series production, with the first VAB's being delivered to the Army in 1976.

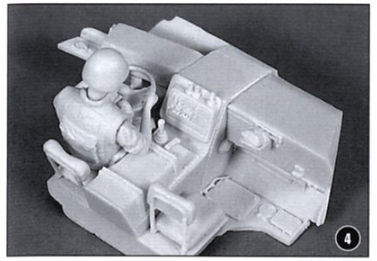
The French Army bought a mixture of 4x4 and 6x6 versions totaling about 3,975 vehicles and developed a number of variants including medical, command and control, and a number of different weapons carriers. The main difference between the 4x4 and 6x6 is simply the number of wheels—honest, that's it. Total production, was around 5,000 and ended in 1993. During this time, the Renault Company absorbed both Saviem and Creusotcules Industries and continued to produce the VAB under the Renault Vehicles Industry (RVI) umbrella. This was later merged with Giat Industries. A brand new company called Satory Military Vehicles was set up by Giat and RVI to be responsible for the VAB series and a number of other vehicles, including the AMX-10RC. As early as 1990 they have been developing and trying to sell a VAB New Generation (VAB NG).

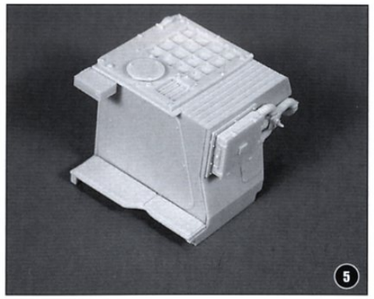


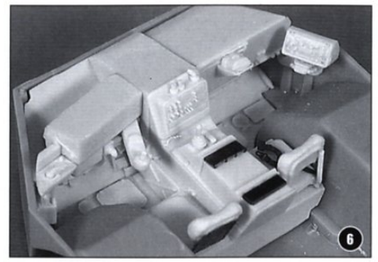




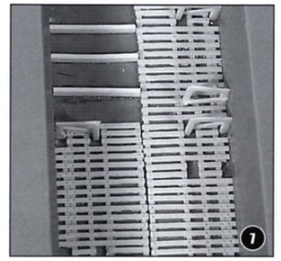
1. The hull bottom was started first, but not completed. The large boxes on the sides are part of the Blast detail set with an Eduard latch mounted. 2. The Blast wheel set was easy to mount. All that was needed was to remove the extra pin on the square mounts. 3. The upper hull required some major cutting to prepare it for the new internal parts and Eduard screens.

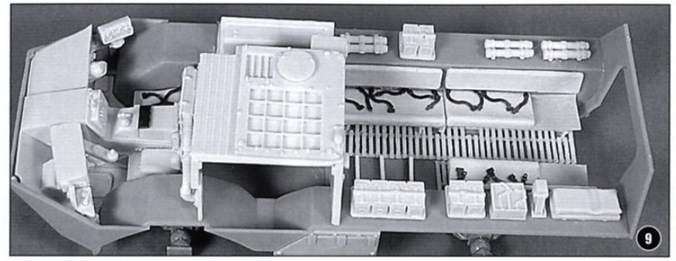


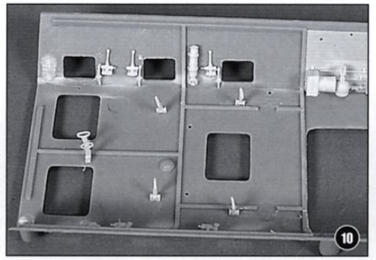


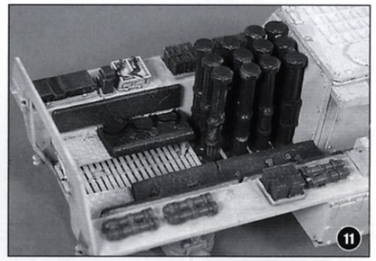


4. The driver in the new forward compartment. The driver had the steering wheel cast to his hands, so I wanted to be sure he would fit. 5. The new engine compartment from Blast. The Heller kit has a similar compartment, but not as detailed. 6. There is a raised part, which is supposed to represent an accelerator molded on the floor of the hull. This needs to be removed, or the new compartment will not sit right. 7. The floor pieces from Blast were modified to allow the installation of the ADV Milan reloads. This was fortunate, since one section of the floor piece was badly cast and all the slats were filled in. 9. The major pieces glued into the hull. Notice the rear seats where the cushions have been removed. This is part of the ADV kit, since the Milan operator stands on them. The seat belts also came in handy in the rear area. 10. The top also had detail parts like handholds, the heater and fire extinguishers. 11. A close up of the troop compartment with the reload of Milan missiles in place. 12. The painted driver was glued in before the top was attached.









A whole lot of Blast kits

As far as I can tell, the Heller kit of the VAB 4x4 was released in late 2002, but when you open the box you realize just how little Heller has tried to keep up with the current standards of the plastic kit industry. I wonder if they are still working on the Maginot line? Anyway, the parts and casting are no better than their earlier kits and the fit is still pretty poor. The pieces and details are very heavy handed. The good news is that another French company has stepped in to bail them out. Blast Models is a Paris based resin company who may have been properly embarrassed by their domestic plastic company into making some great after market items for the kit. This is the first time I have used them and, although expensive when combined and a little difficult to get here in the U.S., their quality is very good.

The Heller kit of the VAB 4x4 consists of four sprues cast in what I call "baby doo-doo" brown. The colored sprues have 241 parts on them. There is also a clear plastic sprue with 22 parts on it and a bag of four solid rubber tires. The 20-page, 21 step instruction booklet is included, two coloring guides for VAB's in the French Army, plus decals.

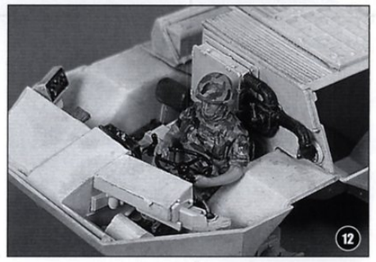
This is one of those projects where the base kit only provides the shell, since Blast furnishes virtually everything else. I used five different detail sets from Blast, plus two figures and another set from ADV to add the Milan missile. Eduard has just released two new photo-etch sets for the interior and exterior, which I also used.

Where to start

There were so many after market kits involved here it took some careful planning to get everything figured out. Just so I could get started, I began with the lower hull, which did not have many replacement parts. I added all the parts on the bottom covered in the first two steps, except for a few that I thought might get broken off. In Step 3, I replaced the two large storage boxes that go underneath the fenders with the resin ones from Blast. In Step 4, the axles, #88, were glued on, but the peg was cut off on the outside so the resin replacement tires would fit over them. It was at this point that I decided to move to the interior before proceeding with any more exterior work.

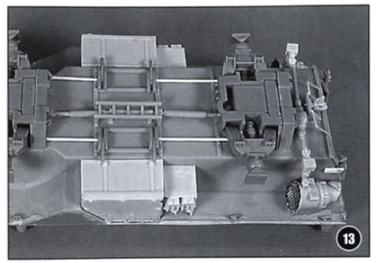
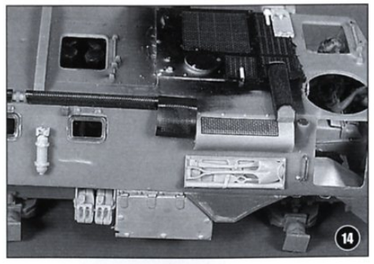
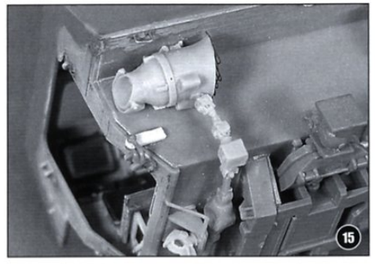
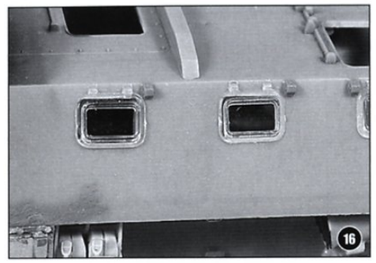
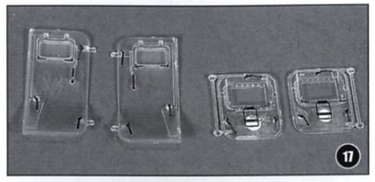
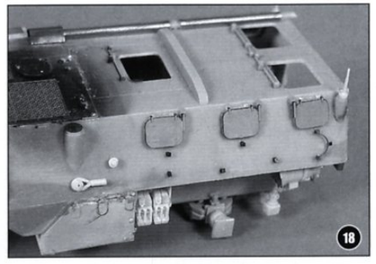
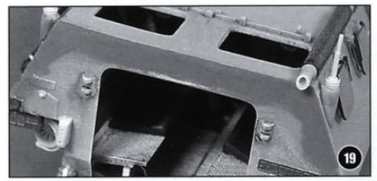
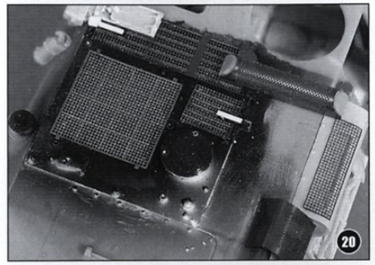
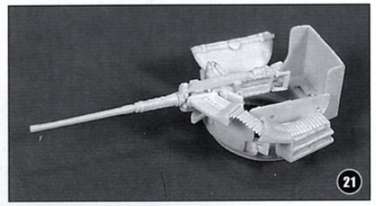
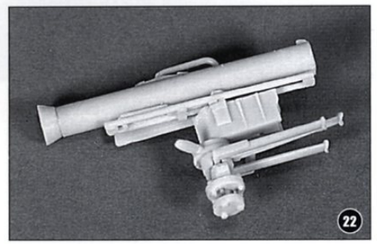
Major interior work

I did not use any of the Heller interior parts.



Blast has two kits for this area. The first one is the driver's compartment interior. I glued all the parts on the forward console, but I removed the raised gauges on this panel as I planned to use the Eduard dash. I had the driver figure for this vehicle, which comes with the steering wheel cast into his hands and this made my job a lot easier. I did fit him into the seat to be sure it was back far enough. This turned out to be a good idea because the instructions have you place it too far forward. To get the console into the front you have to remove the molded-on gas pedal from the forward bulkhead. I also had to trim down the top and front of the Blast console, because it sat too high and interfered with the hull top. After all the trimming and several test fittings, I glued the console in.

The next task was cutting out all of the holes in the top hull piece. This started with the engine grill area. After removing this area, I also removed the forward grill on the nose for an Eduard replace-

13. There were a number of details to add to this very busy bottom. The white rods are replacement styrene rods, since the kit's parts were very poor. 14. Although Blast furnished new exhaust pieces, I thought the Eduard screens were much better. Notice the spare gas cans and pioneer tools that came with the Blast set. 15. As hard as it is to believe, Heller forgot to supply mounts for the rear tow shackles. The instructions actually have you glue them right to the side of the hull. 16. Fortunately, all the windows are glued on the outside. This makes assembly a lot easier. 17. The doors are all molded in clear plastic. This is kind of neat, since it makes the windows less of a problem, but you do have to mask a lot. The smaller doors are for the forward cab and unfortunately, include some rather large mold release holes that need to be filled. 18. The inside of all the armored shields were first painted then glued to the clear windows. 19. The Eduard set provides some nice taillights and three nameplate replacements. 20. The Blast kit gives you the new engine top, but it does not fit well. I made one out of very thin sheet styrene. The Eduard screens are a must for this kit, since Blast seems to have forgotten about them. 21. The Blast 12.7mm Machinegun ready for installation. This was rather difficult to assemble due to poor instructions. 22. The Azimut Milan missile launcher, which goes on the back deck. The instructions for this one were good and assembly was easy.

ment screen. The second Blast kit for the interior includes a replacement for the engine compartment. This was assembled and test fitted with the hole in the hull top. Oddly enough, the Blast engine top provides all the underlying grills but does not include the screen that goes on the top of it, nor does it even mention it. Fortunately, the Eduard set does include the missing screens.

I also used an ADV conversion for this kit to turn it into a Milan missile carrier. This set does require some modifications in the interior to make room for the Milan missile storage. I trimmed the Blast Models floor grate to allow the canisters to be glued to the floor. This was actually lucky, because one of the floor pieces from Blast was poorly cast and half the grates were filled in. After some serious cleaning, I glued the floor grates in. The Milan missile configuration also requires the rear bench seats to be modified, since the cushions are removed to allow the gunner to stand and fire the Milan missile. I cut the end cushions down and glued the metal seat end to them. The seats were all glued in and the seat belts from the Eduard set were glued onto the seats. The rest of the interior pieces where then glued in along the sides. Finally, the engine compartment was installed.

The inside of the hull top was detailed next by installing the handholds and side window/shutter arms along the sides, along with the two fire extinguishers. There are supports that go along both sides in the interior that only Eduard seems to be aware of, so I glued them in, as well. The Eduard set includes interior window frames, which were also added. The top was test fitted again and it required a little more trimming. Then, everything was washed in warm soapy water to remove any mold release. The interior was sprayed with Tamiya XF-28 park green and XF-2 flat white mixed to about 5-95%. This gave me a very light green color for the VAB interior. I also sprayed the Milan missile canisters with Tamiya XF-63 olive drab.

Moving outside

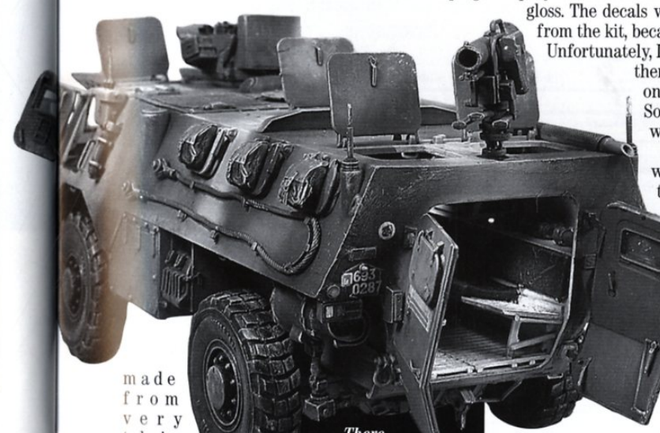
I now returned to the bottom of the vehicle. I added the smaller details, such as the water jets, which took some figuring out, but I finally got them on. The Blast kit provides screen for these, but I liked the Eduard parts better. The two gas cans on either side from Blast look great and even have the chains. The handles for the cans are separate and these were glued on. There are a number of footholds and a couple of hand holds on the side. I used brass wire for these, instead of trying to clean up the mold lines on the kit parts.

The exhaust system that runs along the right topside was next. I made it using the kit pipes and the Eduard screens. The Blast kit includes some nice ones, but there is no substitute for actual screen. Blast provides a nice set of tools and the shovel is separate. The Eduard set includes the tool rack, but no tools. The Heller tool rack is a molded blob and there is no help in getting the tools out of it, so the choice was easy. Blast!

A really odd thing is that the rear tow shackles have no attachment points on the hull. The instructions show them simply being glued to the side of the vehicle. Talk about being lazy! Anyway, I made the mounts out of strip styrene and glued them and the tow shackles on the rear. Heller did include the mounts for the front ones. I added the Eduard nameplates on the front and rear. I noticed all the instructions have the two on the front mounted above the hull angle, but all the reference photos I could find have them mounted below, so that is where I put mine. You do get a choice of SAVIEM and RENAULT. I chose the SAVIEM plates, since I believe the original VAB's would have that name.

You get the option of putting a diving plane on the front, which has a clear piece. In the raised position this is on top. I decided to leave mine off, since I noticed it is not carried very often. I also left the headlights off until after painting, since the kit's lights are clear plastic. To make matters more difficult, they are behind a housing with bars across it. This is also true of the small marker lights, which are made of clear plastic.

The front and rear doors are all clear pieces, which are a little unusual, but it does simplify construction. The two front doors have huge and deep mold release marks. I first filled them in with plugs made from very thin plastic sheet, then sanded them down. I added all the Eduard interior handles and I cut masks for the windows out of Frisket Film, which you can pick up in any art supply store. These were put on all the doors and front windshields. I sprayed all the armored shutters Tamiya XF-58 olive green on the inside, along with all other hatches and the prepared doors. All the windows go in from the outside, which makes assembly much easier. I glued the six side windows and then glued the prepainted shutters on top.

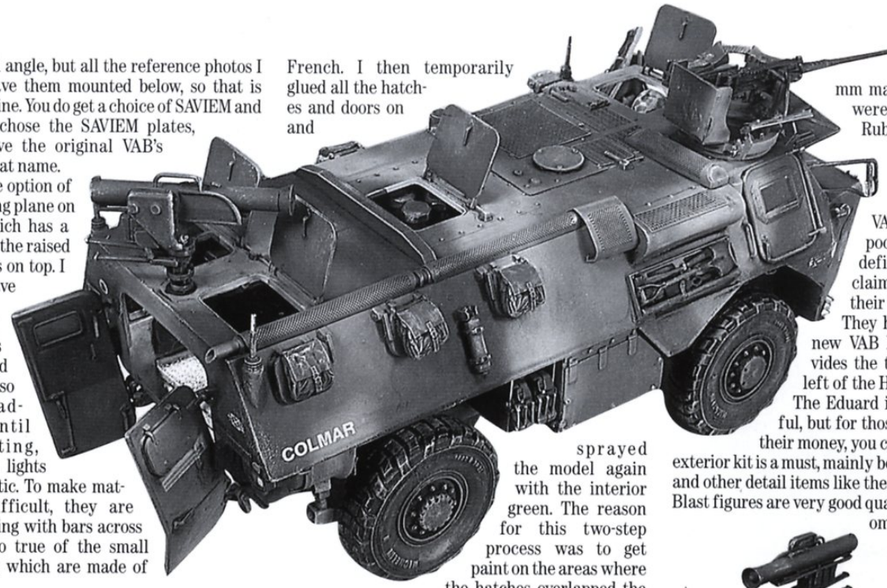


There was no way I was going to button this baby up after spending all that time on the interior. The advantage of this vehicle is that there are so many hatches you can see everything inside.

Finishing the painting

I decided to paint my model in the three-color camouflage pattern. I first stuffed the entire interior with cotton and masking tape, then sprayed the entire model in Model Master interior green. This seems very close to the light green used by the French. I then temporarily glued all the hatches and doors on and sprayed the model again with the interior green. The reason for this two-step process was to get paint on the areas where the hatches overlapped the hull. I then painted the other two camouflage colors, Tamiya XF-69 NATO black and Model Master leather. Before removing any of the masking, I sprayed the areas for the decals with Tamiya clear gloss. The decals were another disappointment from the kit, because the registration was off. Unfortunately, I had no substitutes, so I used them anyway. Once they were on and given a wash of Solvaset they were sprayed with Polly Scale clear flat.

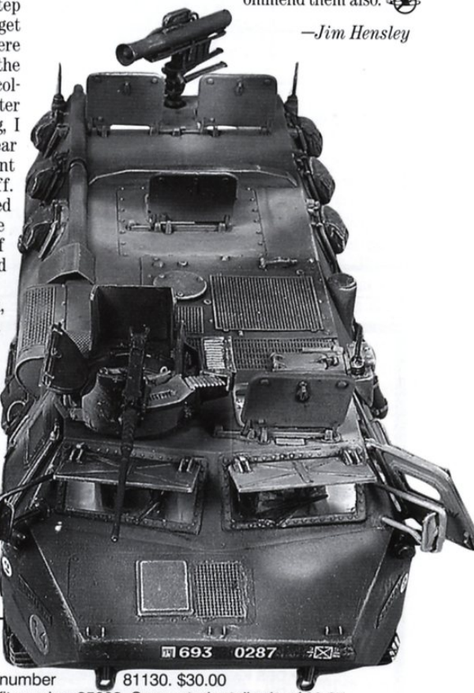
Then the real fun began, which included gluing on all the hatches, tires and other miscellaneous items. The tow cable, which was made from Karaya copper tow cable material, was soaked in Blacken-it and then mounted. The whole vehicle was then given a wash of black oil paint. Afterwards, I dry brushed with various oil paints. The 12.7-mm machine gun and tools were dry brushed with Rub n' Buff silver.



My conclusions

All I can say about the Heller VAB is that it is a very poor kit, but Blast has definitely stepped in to claim the honor with all their wonderful products. They have even released a new VAB NG, which also provides the top hull! I am not is left of the Heller kit on that one! The Eduard interior set was useful, but for those who are watching their money, you can do without it. The exterior kit is a must, mainly because of the screens and other detail items like the gas can holders. The Blast figures are very good quality and I highly recommend them also.

—Jim Hensley



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Heller VAB 4x4 Transport de Troupes. Kit number 81130. $30.00
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Blast Models graciously provided their kits for this review. Check out their website and store at http://www.blast-models.com
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References

Foss, Christopher & Gander, Terry. *Jane's Military Vehicles and Ground Support Equipment*, 8th Edition, Jane's Publishing Company Ltd., London, UK 1997.

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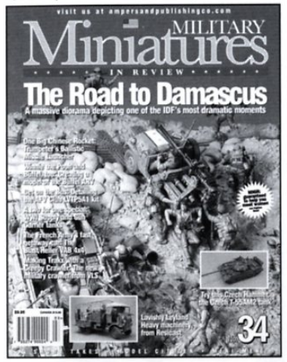

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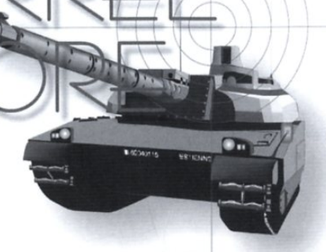

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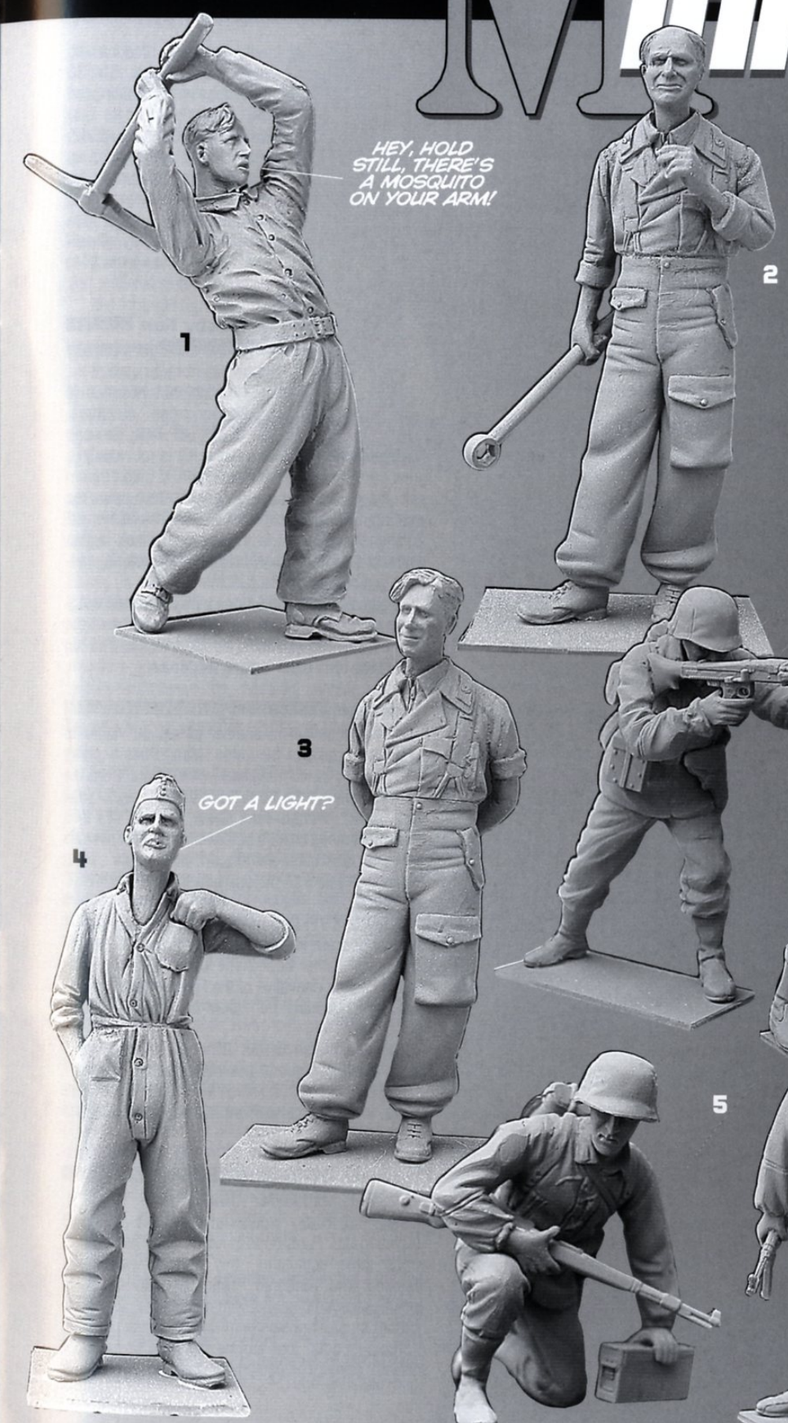
A peek at what's new on the figure front!

MiniMen



135th Construction

CO 0067, Worker with Pick (1). You're always in need of good help, right? The latest release from 135th Construction Battalion is just the ticket to help out with your next Celluclay hole. This pike swinging guy can be painted any way you see fit. He's dressed in generic civilian clothes or perhaps even the "catch me, F-me" military uniform. The pick is the 28cm ausf. B, Mark IV A3 model. Swing away!

Corpus

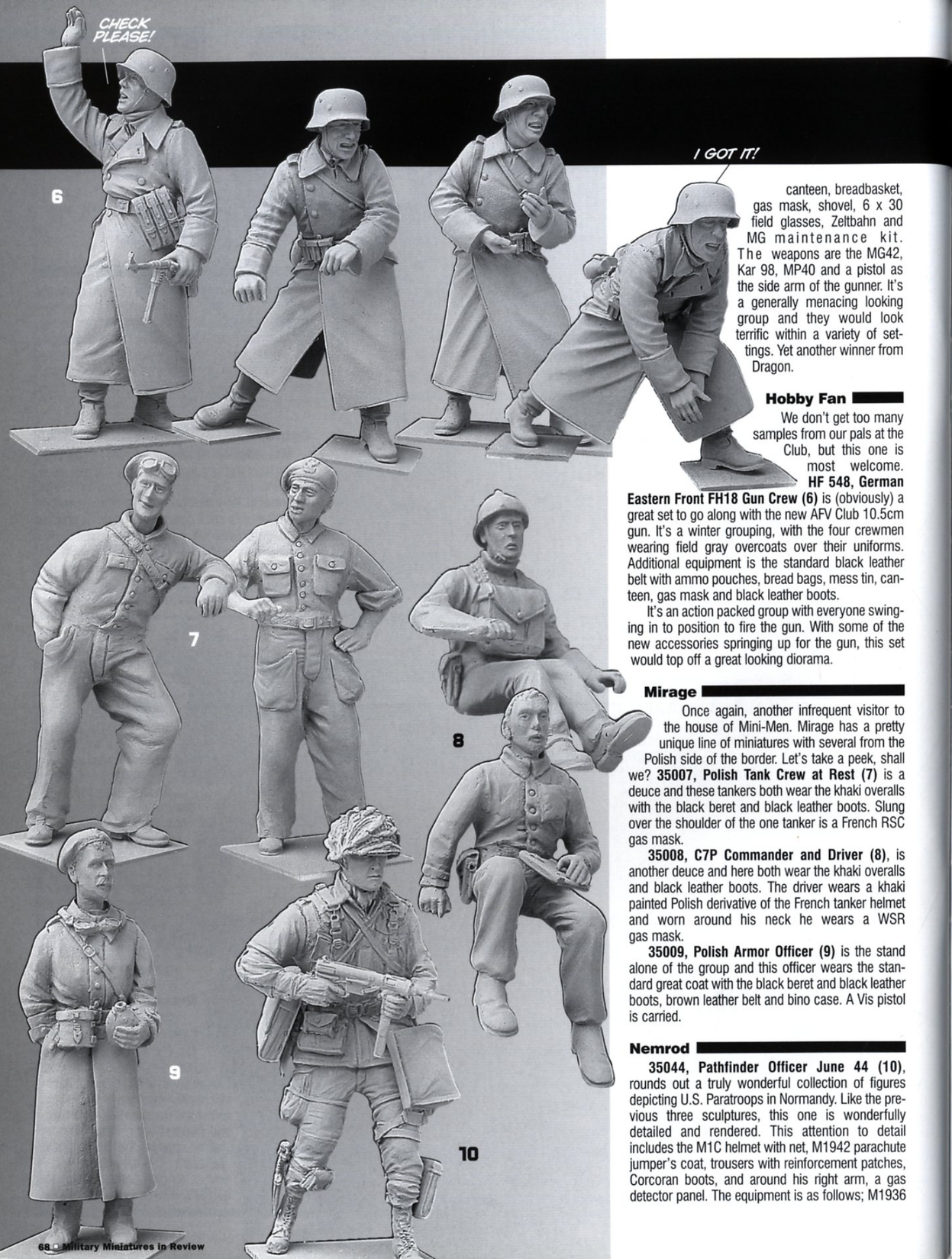
More catch-up from the boys from Hungary. We should be in line with the numbers by the next issue. Rounding out the collection this time is **35006, Wehrmacht Tank Mechanic (2)** and he's a man on a mission. He's got a great scowl on as he smokes and contemplates the object of his wrench. He's wearing the pocketed denim pants with his Panzerwrap tucked in. He is also in need of the Hair Club for Men, which is a terrific little touch we haven't seen before.

His buddy, **35008, German Tanker (3)**, is an obvious companion piece and he looks a little bemused by all the mess. He is decked out identically to wrench man but wears his sleeves rolled up.

35010, German Artilleryman (4), is yet another guy who has yet to kick the habit. This is a nice, simple pose and even his lips have a space for the ciggy! We're not really sure what makes him an artilleryman, but with the generic coveralls and the simple cap, he could fit just about anywhere.

Dragon

6159, Panzer Grenadiers, LAH Division (Kursk 1943) (5). This set has a MG team in action with probably the worst way an AG likes to have to have it be used—over the top! The uniforms are standard field gray tunics and trousers with camo smocks, helmet covers and black leather jackboots. The full combat load is worn: ammo pouches for the respective weapons, mess tin,



canteen, breadbasket, gas mask, shovel, 6 x 30 field glasses, Zeltbahn and MG maintenance kit. The weapons are the MG42, Kar 98, MP40 and a pistol as the side arm of the gunner. It's a generally menacing looking group and they would look terrific within a variety of settings. Yet another winner from Dragon.

Hobby Fan

We don't get too many samples from our pals at the Club, but this one is most welcome. **HF 548, German Eastern Front FH18 Gun Crew (6)** is (obviously) a great set to go along with the new AFV Club 10.5cm gun. It's a winter grouping, with the four crewmen wearing field gray overcoats over their uniforms. Additional equipment is the standard black leather belt with ammo pouches, bread bags, mess tin, canteen, gas mask and black leather boots.

It's an action packed group with everyone swinging in to position to fire the gun. With some of the new accessories springing up for the gun, this set would top off a great looking diorama.

Mirage

Once again, another infrequent visitor to the house of Mini-Men. Mirage has a pretty unique line of miniatures with several from the Polish side of the border. Let's take a peek, shall we? **35007, Polish Tank Crew at Rest (7)** is a deuce and these tankers both wear the khaki overalls with the black beret and black leather boots. Slung over the shoulder of the one tanker is a French RSC gas mask.

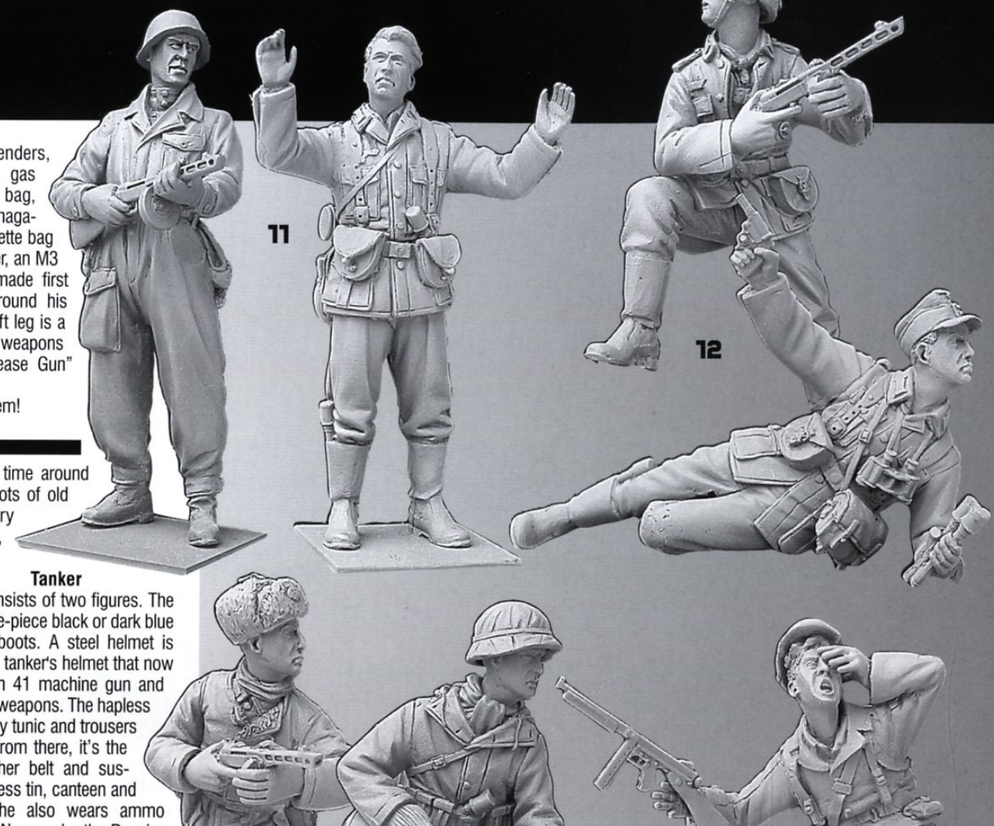
35008, C7P Commander and Driver (8), is another deuce and here both wear the khaki overalls and black leather boots. The driver wears a khaki painted Polish derivative of the French tanker helmet and worn around his neck he wears a WSR gas mask.

35009, Polish Armor Officer (9) is the stand alone of the group and this officer wears the standard great coat with the black beret and black leather boots, brown leather belt and bino case. A Vis pistol is carried.

Nemrod

35044, Pathfinder Officer June 44 (10), rounds out a truly wonderful collection of figures depicting U.S. Paratroops in Normandy. Like the previous three sculptures, this one is wonderfully detailed and rendered. This attention to detail includes the M1C helmet with net, M1942 parachute jumper's coat, trousers with reinforcement patches, Corcoran boots, and around his right arm, a gas detector panel. The equipment is as follows; M1936 pistol belt with suspenders, M1943 entrenching tool, gas mask, M1938 dispatch bag, bag for carrying stick magazines, and an M1936 musette bag carried on the back. Further, an M3 fighting knife and rigger-made first aid pouch is strapped around his right leg and around the left leg is a Hawkins mine. Whew! The weapons consist of an M3A1 "Grease Gun" and a 45-cal pistol.

Get 'em, get 'em, get 'em!



Warriors

Quite a boat load this time around from the Warriors crew. Lots of old standards and some very interesting new subjects. 1, 2, 3 GO!

35486, Russian Tanker w/German POW (11), consists of two figures. The first, a tanker, wears the one-piece black or dark blue overall and black leather boots. A steel helmet is worn in place of the typical tanker's helmet that now hangs on his belt. A PPSh 41 machine gun and Takarov pistol make up his weapons. The hapless prisoner wears the field gray tunic and trousers with black leather boots. From there, it's the standard issue black leather belt and suspenders with bread bag, mess tin, canteen and gas mask. Interestingly, he also wears ammo pouches for the PPSh 41. No wonder the Russian looks so pissed off.

35487, German Assault Troops (12). Another two-figure set, both guys wear the field gray tunic and trousers with black leather boots. Heads are topped with the feldmutze and helmet with camo cover. The equipment consists of black leather belt, bread bag, mess tin, canteen, signal cartridge pouch, standard 6x30 binoculars and ammo pouches. The weapons are a PPSH 41 and a flare pistol. These are action poses with both guys ready to take on the Russkies and more.

35489, SS Grenadiers-Eastern Front (13). More eastern front action here with one PPSH 41 toting grenadier wearing a sheep skin jacket and a winter cap made with rabbit fur and green satin. A bacalava is worn around the neck and reversible trousers cover the rest of the way down. The grenadier with the Kar 98 wears full reversible winter uniform with white helmet cover and scarf around his neck. The equipment is black leather belt, ammo pouches, bread bag, mess tin, canteen, shovel and gas mask. Look out Ivan!

With **35490, U.S. Infantry Advancing (14)** the action just won't quit. There are two in the box and both wear M1941 field jackets with OD wool trousers and brown leather ankle boots with leggings. The equipment is made up of the M1936 pistol belt with suspenders, M1936 musette bag,

M1936 haversack with bayonet attached and six-pocket cotton ammunition bandoleer.

Our jogging buddy is armed with the M1 Garand, while the guy catching the bean to the noggin carries a Thompson Sub machine gun.

35491, German Reconnaissance Troops (15) consists of an infantry lieutenant and a panzer officer. The lieutenant wears a field gray tunic with matching trousers and black leather jackboots. Around his neck are 7 x 56 field glasses. Other equipment is the black leather belt and pistol with brown leather map case. The weapon is a soviet PPSh 41. The panzer officer wears the black panzer uniform with the tunic fully buttoned. He's further decked out with a black leather belt, pistol holster and ankle boots. He sports a wound around his right eye and his feldmutze is neatly sculpted over the bandages. His protective goggles hang loosely around his neck, a very realistic touch.

35492, Luftwaffe StuG Crew (16) contains three StuG crewmen wearing the tan or sand colored uniforms for service in a tropical environment. One of the crewmen is wearing the short trousers and the special short sleeved blouse. This has been appropriately "badged-up" with a breast eagle and epaulets. The other two wear a bit more, with combinations of the undershirt and blouse. All wear brown leather belts and ankle boots. A neat little set that could be used on or off the StuG.

35494, USN Corpsman-WWII (17) continues to round out the immense line of WWII Pacific-themed figures from Warriors. This trotting dude wears a helmet with camo cover, two piece dungarees and brown leather boots. A 1936 model pistol belt with canteen, first aid pouch and .45 cal pistol are all carried. He's toting two medical bags, one in his hand and the other over his shoulder.

35495, N.K.P.A Soldiers Pt. #1 (18) and **35496, N.K.P.A Soldiers Pt. #2 (19)** are the real hit this time around in our eyes. The subject breaks a bit of new ground and the stature of the sets is spot-on. The four wear Soviet-style everything. Khaki shirts and trousers, right down to the rubber soled canvas ankle boots. Headgear consists of peaked caps and helmets in the aforementioned Soviet style. The equipment is a mix of leather and canvas items. The fabric tubes around two of the soldiers are for carrying rations (always in short supply in the NKPA). The weapons are the PPSh 41, Mosin Nagant rifle (a bit big for its operator), Korovine Pistol and a DP light machine gun with drum.

35498, NVA Tank Crew (20) contains more gentlemen of short stature. The entire crew (two halves and a whole) wears olive green shirts with sleeves rolled up and olive green slacks—the typical costume worn by your average tank riding Charlie. The standing crewman, of course, wears

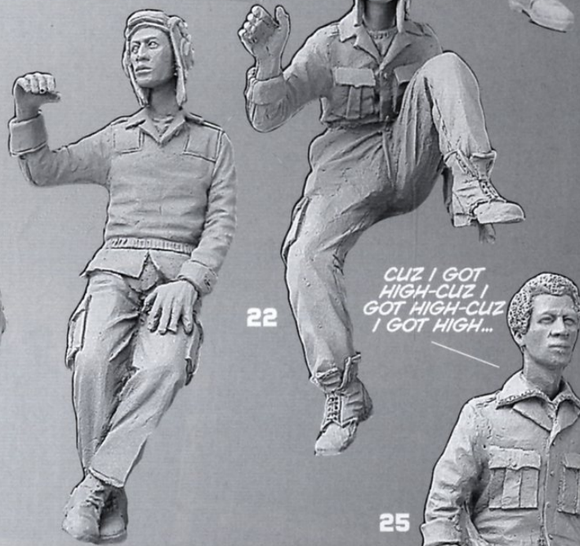
canvas tennis shoes. Soviet style tanker's helmets are worn by all. If you're looking for a unique way to display that T-54 conversion, this is it!

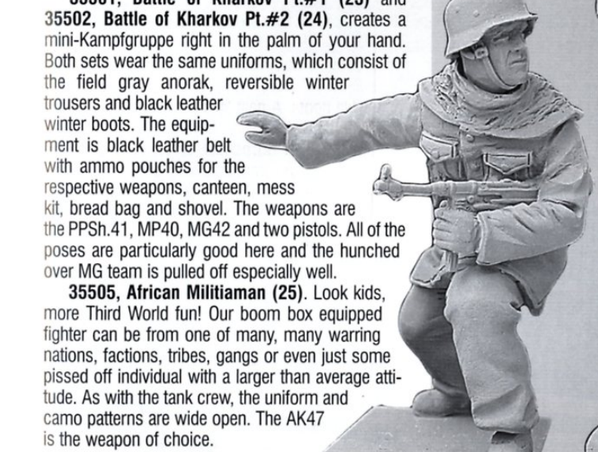
35500, African Tank Crew #1 (21) and **35507, African Tank Crew #2 (22)**. With these four figures you pick your country, you pick your Soviet tank relic, you pick your uniform color or camo pattern and the possibilities are wiiiiiide open, baby. It's a rag-tag looking group and uniforms are worn baggie, boots are untucked and unbuckled, trouser legs are rolled up, heck—one guy even wears a sweater. Headgear is, naturally, mostly Soviet style tanker's helmets with a beret thrown in for good measure.

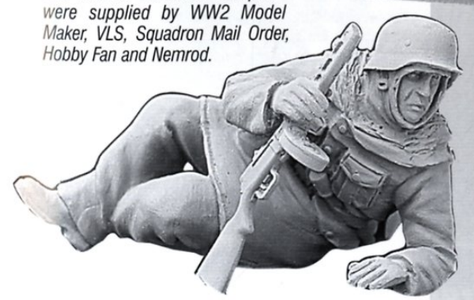
35501, Battle of Kharkov Pt.#1 (23) and **35502, Battle of Kharkov Pt.#2 (24)**, creates a mini-Kampfgruppe right in the palm of your hand. Both sets wear the same uniforms, which consist of the field gray anorak, reversible winter trousers and black leather winter boots. The equipment is black leather belt with ammo pouches for the respective weapons, canteen, mess kit, bread bag and shovel. The weapons are the PPSh.41, MP40, MG42 and two pistols. All of the poses are particularly good here and the hunched over MG team is pulled off especially well.

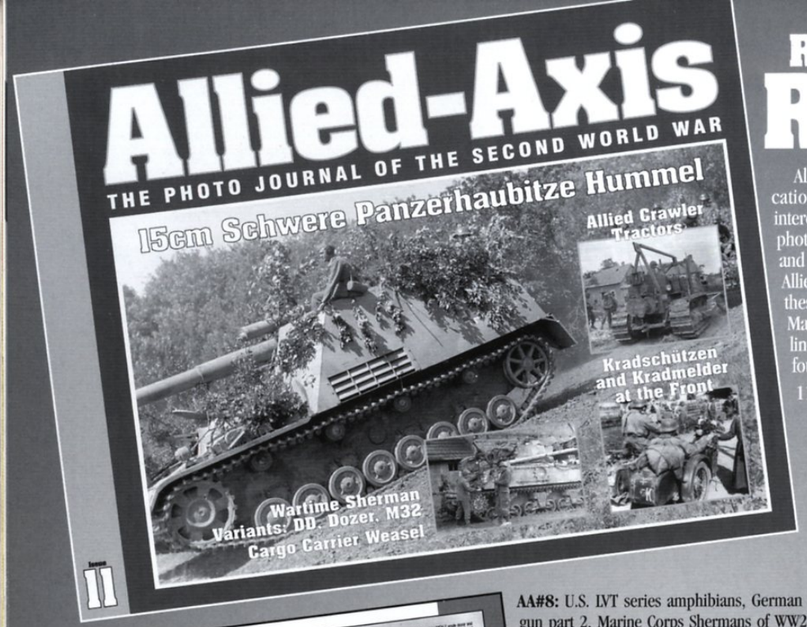
35505, African Militiaman (25). Look kids, more Third World fun! Our boom box equipped fighter can be from one of many, many warring nations, factions, tribes, gangs or even just some pissed off individual with a larger than average attitude. As with the tank crew, the uniform and camo patterns are wide open. The AK47 is the weapon of choice.

This issue's Mini-Men samples were supplied by WW2 Model Maker, VLS, Squadron Mail Order, Hobby Fan and Nemrod.








Allied-Axis
THE PHOTO JOURNAL OF THE SECOND WORLD WAR
15cm Schwere Panzerhaubitze Hummel
Allied Crawler Tractors
Kradschützen and Kradmelder at the Front
Wartime Sherman Variants: DD, Dozer, M32 Cargo Carrier Weasel
11

Reference! Reference! Reference!

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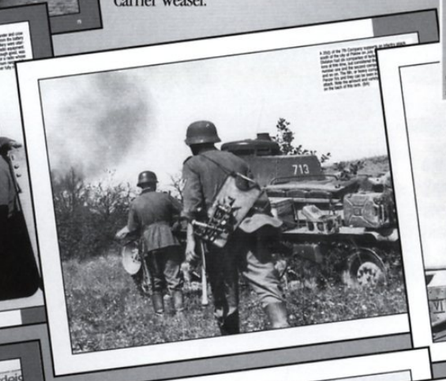
Allied-Axis
THE PHOTO JOURNAL OF THE SECOND WORLD WAR
Karl-Gerät 040 at the front
Panzerjäger I · SdKfz. 10 f-ton halftrack
U.S. M2 Treadway Bridge · PzKpfw. IV Ausf. A
Type 97 Japanese medium tank
9

AA#8: U.S. LVT series amphibians, German 10.5cm gun part 2, Marine Corps Shermans of WW2, Kursk: Porsche's Heavyweights in Action.

AA#9: German "Karlmörser" heavy gun, German Panzerjäger I, German Demag 1-ton half track, German Pz. IV A, U.S. M2 Treadway Japanese Type 97 tank.

AA#10: German PzKpfw 35(t), U.S. M3 "Lee" Medium Tank, Sturmgeschütz at the Front, U.S. Rockets in WW2, German SdKfz. 250 Halftrack.

AA#11: German 15cm SPG "Hummel," Allied Crawler Tractors, Wartime Sherman Variants, Kradschützen and Kradmelder at the Front, Cargo Carrier Weasel.



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MAKING TRAX WITH A CREEPY CRAWLER

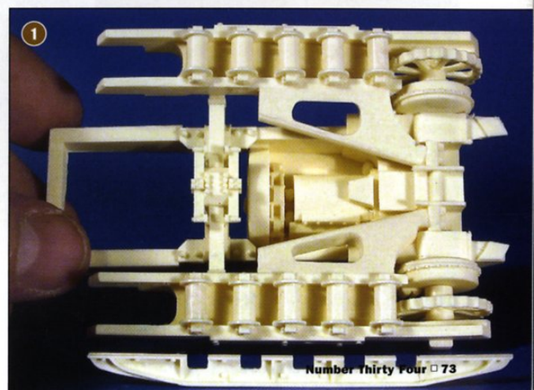
A RUN DOWN OF THE NEW AND COMPLETE KIT OF THE MILITARY CRAWLER FROM VLS

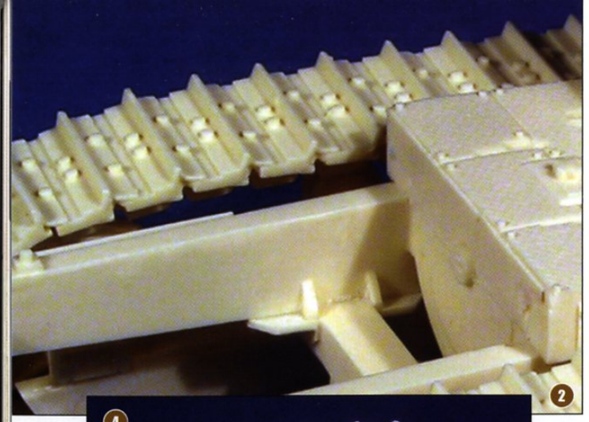
The M1 heavy crawler tractors used by allied in forces in WWII varied a great deal in details and application. General Patton said that he could accomplish more with one bulldozer than a dozen tanks. While most tracked vehicles employed in WWII had a very short life span, some dozers were used from 1941 till the end of the war in 1945. Researching the subject of heavy crawler tractors of the Second World War was an enormous task. While literally hundreds or even thousands of good photos of these machines are available, it seems that no two vehicles are alike. Several different companies manufactured the basic crawler, upon which a vast assortment of various blades, cranes, A-frames, PTO's, winch units, hydraulic systems and armor plate kits were mounted.

The kit

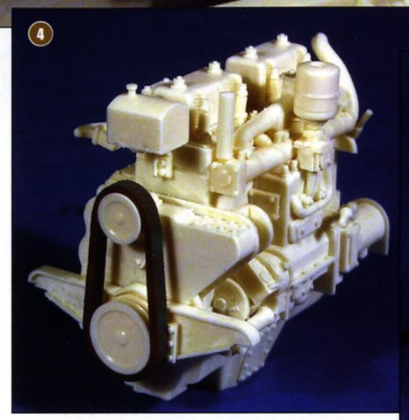
The 1/35 Scale Construction Battalion complete resin kit is of a fairly common machine known as the U.S. M1 Dozer. This basic crawler is equipped with a standard dozer blade setup that could be found in service all through WWII in all theaters. The kit was mastered by Ben Jakobsen who has done a magnificent job of engineering the parts in a sensible way that make the assembly of the kit fairly straight forward and quick. The production of the kit is of the VLS labs usual high standard, the instructions are well laid out and informative. I decided to start from the ground and work my way up on this kit, so the first step was to join parts F2, F3 and then F4 are all assembled onto part F1, the main frame piece. Now you can assemble all of the suspension and running gear parts onto parts F3 & F4. It is very important that parts S5 (on both sides of the vehicle) line up with the openings in parts S1 & S2. I would recommend test fitting these parts and using a pencil to mark their necessary locations **(Photo 1)**. Study the tracks carefully before final assembly. The multi-link sections are marked with an "R" or "L," indicating right or left side tracks. The individual links are not handed, test fit before gluing. The tracks are the hardest part of the kit to assemble correctly, take your time and test fit the tracks before gluing **(Photo 2)**.

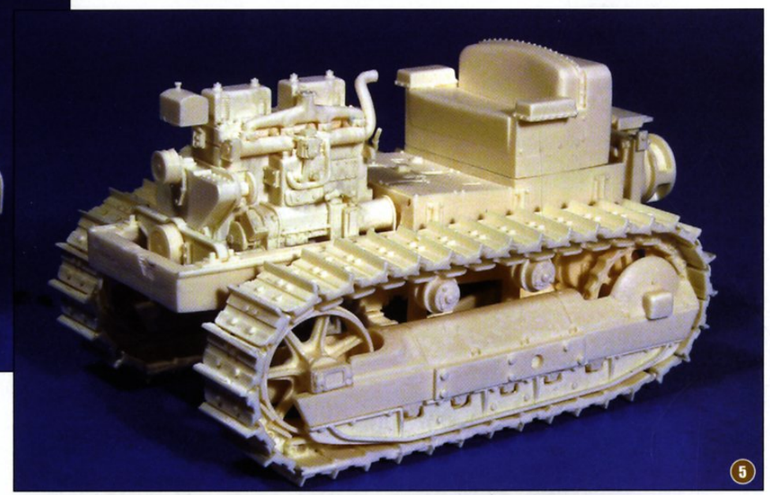
Once you have the tracks completed and mounted, it's time to move on to the engine. The engine is made up of twenty resin parts, some fine wire and a small rubber band or small strip of tape to serve as an engine belt. Part E8 was the only engine piece



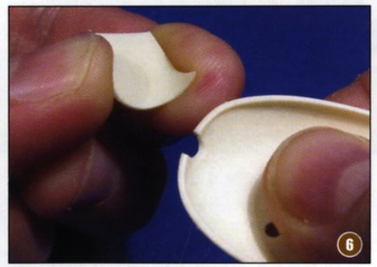


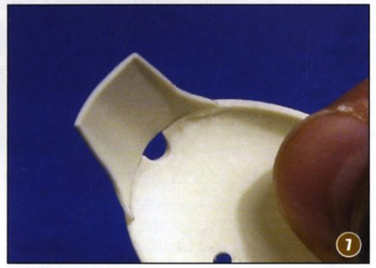
power control unit located behind the driver's seat on the rear of the vehicle, through a piece of channel mounted over the drivers head, over two pulleys and down to a fitting on the top of the actual blade **(Photo 10)**. Over the years, I have experimented with just about every known product on the market used to represent cabling on 1/35 scale models. Some of them are too stiff and won't hold the shape, others are the wrong size, still others will not take paint. It has been a real frustration and I have yet to find a satisfactory product. A method that works like a charm every time, is to make them myself from strands of .10 solder wire, slowly twisted to size using a very





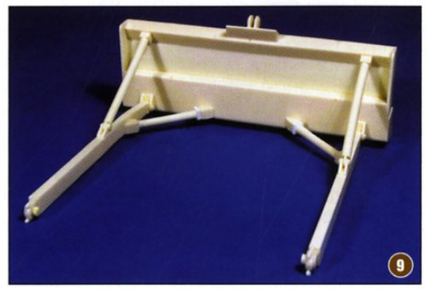
that I found necessary to modify in order to make it fit properly **(Photo 3)**. The kit engine really does build up to be a great representation of the actual vehicle power plant **(Photo 4)**. If you are really into super detailing or if you are the type that can't build a kit without adding some type of detailing, then this engine is a perfect starting point to let your mind run wild by adding bits of wiring and hoses, bolt heads and various fittings, etc. **(Photo 5)** With the engine mounted onto part #F1, you can move onto assembly of the radiator, grill, hood and front cab piece **(Photo 8)**. As with any resin kit, some sanding and fitting is required. Part C6 needs to be formed to the contour of the cab end of the hood. This can be accomplished by trimming part C6 from its sprue and gently bending the resin piece to the necessary shape and holding it to that shape for thirty seconds or so **(Photo 6)**. This will make the piece easier to glue into place when you align it to the hood contour and hit it with super glue

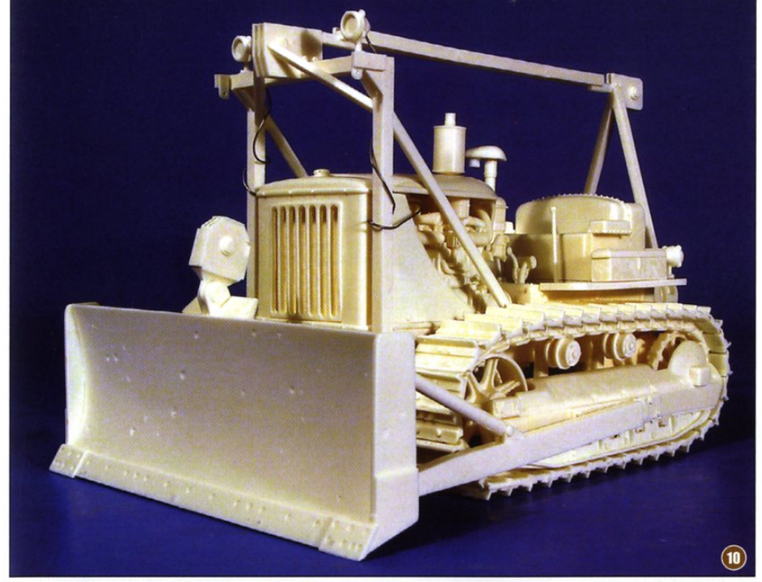




(Photo 7). I decided to build this kit in several subassemblies, so I could test fit all of the parts for final fit and then disassemble the subassemblies for easier painting. The dozer blade was one of the subassemblies **(Photo 9)**. The grab handles on either side of the driver's seat were made from copper wire. In order to make two matching pieces, I find it easier to build a simple jig to use in forming the pieces. For the grab handles I used two small nails that were the right diameter and I spaced them the correct distance apart on a piece of scrap wood **(Photo 12)**. Then it was a simple matter of winding the copper wire around the two nails to get the proper shaped part and trimming them to size right on the jig.

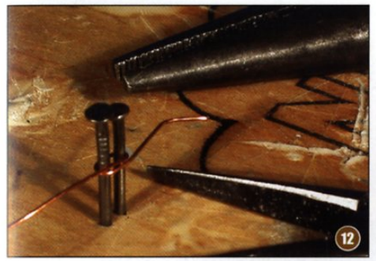
The mechanism for operating the dozer blade involves running cables from the slow turning Dremel drill **(Photo 13 &14)**. Depending on the size of the solder wire used and the tightness of the wrap, you can replicate any vehicle cabling needed. The solder wire is very easy to bend to any shape or contour, and it will accu-

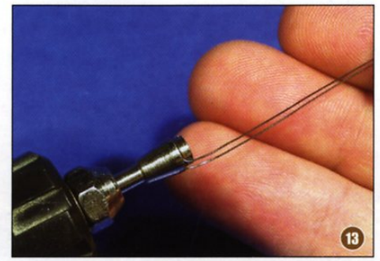


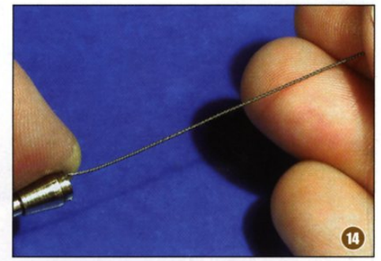


this color in the recesses and a hint of the Raw Umber on the large flat surfaces. I used Mars Orange oil paint to represent the different rusted metal look and applied Humbrol Khaki Drill and Humbrol 148 (a flesh color) washes over the dried Mars Orange wash. I repeated these washes one over the other until I achieved the desired effect **(Photo 15)**. A #2 soft graphite lead pencil was used on many of the surface highlights for that worn metallic sheen.

Tamiya Flat Black XF-1 was used to paint the engine, driver's seat, wiring and control lever handles. Getting the engine to look right was a bit of a challenge. An engine on a machine like this would be quite dirty and weathered. Because of the environment that the vehicle operates in and the fact that the engine is exposed to the elements, there would normally be a lot of rust, dust, dirt and grime coating the engine and it compartment. To represent the heat rusted, metal look on the exhaust manifold and other parts of the engine, I applied a layer of Vallejo #984 Flat Brown by hand with a fine pointed #1 brush. At this time the tracks were also painted by hand with the same Vallejo #984 Flat Brown color. After sitting for 30 minutes or so the



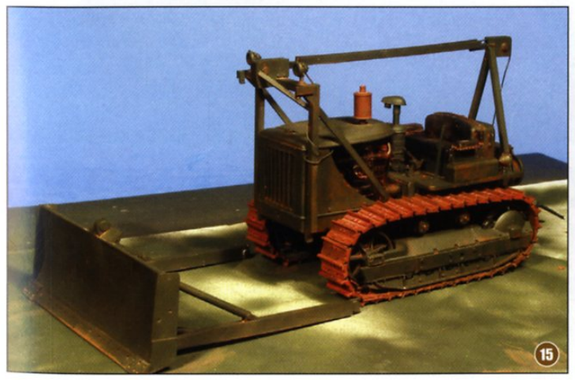


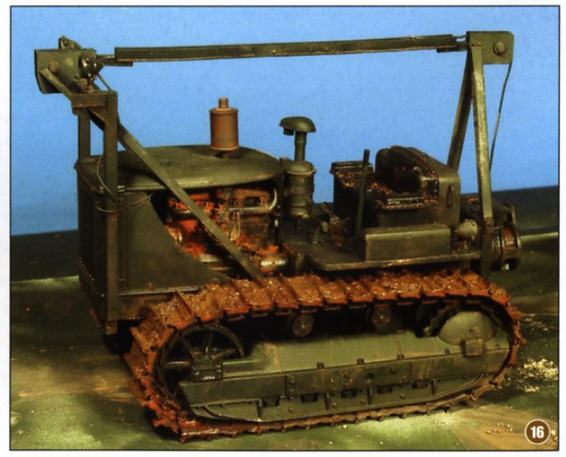


rately hold that position even without glue. The piece of channel that runs over the driver's head is a cover for the cable which is hidden beneath this piece of metal. You can only see the part of the cable that comes from the PCU at the rear and the part that comes from the front pulleys down to the top of the blade. The only detail I found necessary to add to this kit was the fuel filler cap located on the fuel tank at the rear of the driver's seat. I used my punch and die set to punch two plastic discs that were first glued together with liquid cement, and then super glued in place onto the model.

Painting & weathering

For the painting of this little gem I used Tamiya acrylics for all of the base coating and weathered over the Tamiya paint with oil paint washes and the new "Figment" weathering powders from VLS. The base coat color I chose to use to represent the Marine green finish of this vehicle was Tamiya Acrylic XF-27 Black Green **(Photo 11)**. I've stated many times before that my favorite part of modeling is the painting and weathering process and I really get into it. After the Black Green base coat is completely dry (usually 3 to 4 hours), I give the entire vehicle a wash of Raw Umber oil paint. I apply this wash as a rather thick mixture (like milk), let it set for a few minutes and then carefully blot it off with a clean soft cotton rag, making sure to leave some of engine was ready for a quick wash of Mars Orange oil paint, followed quickly by a sprinkling of rust colored weathering powder. This was allowed to dry overnight. The next day I took a #3 paintbrush moistened with paint thinner and gently dabbed away the larger quantities of powder, leaving enough on the model to give a nice effect. More washes followed using Raw Umber, Humbrol Khaki Drill and Humbrol 148 until the desired effect was achieved. Returning to the tracks, I gave them the same Mars Orange wash, followed by sprinklings of a light mud weathering powder. I apply these





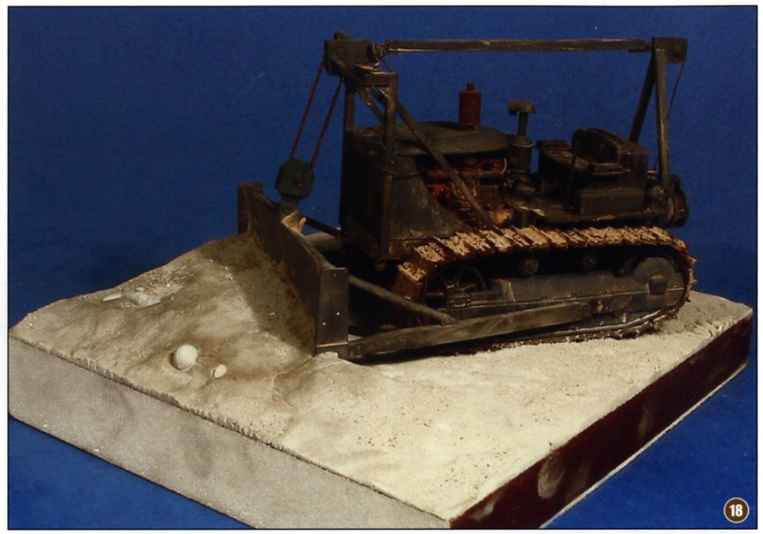
lowed by a layer of ultra thin super glue to secure it in place. Humbrol Matt 29 was used to paint the groundwork. When this dried, a wash of Raw Umber was applied, followed by a fine sprinkling of mud colored weathering powder. I added the mileage post to give the small scene a sense of locale. The post itself is from the 1/35 Scale Construction Battalion lumber set and the signs I made on my computer using PhotoShop. I printed the signs out on my inkjet printer using card stock that I then trimmed with an X-acto knife **(Photo 19)**.

Final thoughts

Overall I am quite pleased with this latest offering from VLS.

In fact, I am building my third one right now. This kit has a lot of potential for the creative diorama builder and with a little more work, a wealth of conversion possibilities to different variants. My next version will be the crawler without the dozer blade or the Le Tourneau assembly that operates it. Many photos show the basic crawler being used as a tug to pull all sorts of things.

—Dave Harper



weathering powders using a Testors pipette. This method allows you to control the amount and exact placement of the powder. The mud colored powder sitting on the tracks now needs to have a damp appearance and should cling to the surface of the tracks **(Photo 16)**. To accomplish this I used a #4 sable brush literally soaking with a thin wash of Raw Umber oil paint, which I carefully blotted onto the face of each track link, individually. This caused the weathering powder to become thick wet mud sitting on the track face. I let this sit overnight. The next day it looked much closer to the effect I wanted, but still needed a little more attention. The next step was to apply another wash of clean paint thinner to the track's surface. It's this final wash that makes the powder really take on the effect of dry/damp mud on the tracks (isn't that a Dylan album?). The same technique that I described for the mud effect on the tracks can be used to simulate clinging dirt/mud on the underside and lower sides of the vehicle.

Driver figure

The driver figure used on this model **(Photo 17)** is the first release in a new series of figures from my own company Harper Castings. The new line is called the "Figure Pharmacy." All of the releases in this line will be figures doing a specific thing. As our motto states "Just what the doctor ordered," means that we will not be doing generic driver figures or figures in the department store mannequin poses. Production of the Figure Pharmacy figures will be limited to 100 castings of each release.

Base

Once I had completed this model I made ready to photograph the finished piece sitting on a blue photo background. It was readily apparent that this muddy, dirty, dusty work horse really cried out for a display base of some type that showed the machine in its element. I took a small scrap piece of I" thick foam and covered it with a 1/4" thick layer of Magic Sculpt modeling putty. After shaping the putty to resemble the necessary terrain, a dozer scoop of dirt being moved, I placed the finished model into the wet putty and pressed it into the surface so the vehicle would fit naturally to the groundwork **(Photo 18)**. The model was removed and the wet putty was covered with fine dirt, fol-

MMiR RECCE

135th Construction Battalion U.S. M1 'Dozer WWII. Kit number CO 0061. Kit graciously provided by the manufacturer. Suggested retail price $99.95.

References

Caterpillar Photo Gallery, edited by P.A. Letourneau, Iconografix Photo Gallery Series, 1997. Not much on wartime vehicles, but it tells the whole story of the caterpillar in photos.

Allied-Axis The Photo Journal of the Second World War, Issue 11, Ampersand Publishing Company 2003, Allied Crawler Tractors by Carlos D'Arcy. 27 non-stop pages of 'dozers in action. The best reference currently available on WWII military 'dozers.

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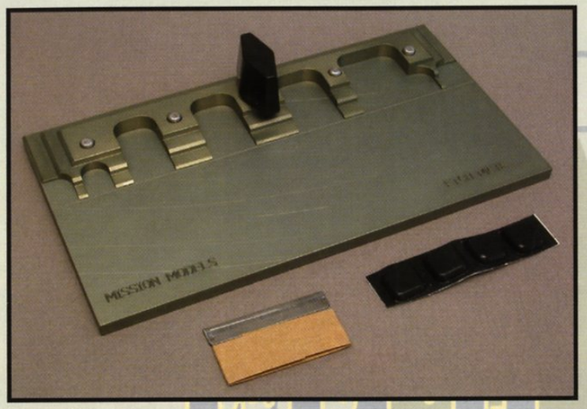

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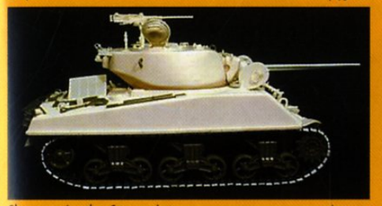

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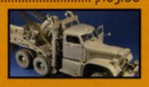

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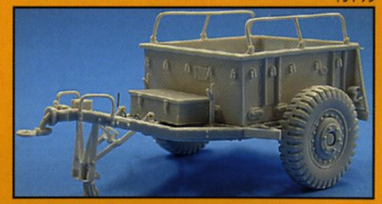

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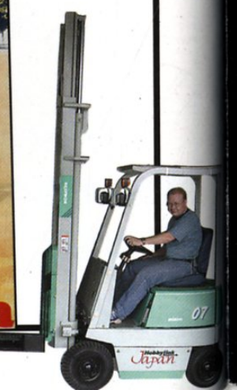

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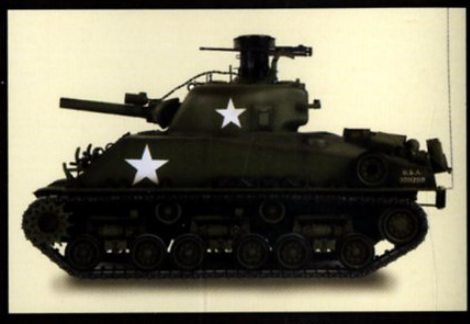

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